# Clinical Effectiveness of PET/CT, PET, CT and MRI for Breast, Cervical, Head and Neck, Gastric and Lung Cancer-A Systematic Review and Meta-analysis

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Welfare

*Abstract* - Background: We performed a systematic review and meta-analysis to assess the accuracy of PET/CT, PET, CT and MRI for the detection of Breast cancer, Cervical cancer, Head and Neck cancer, Gastric cancer and Lung Cancer.

Methods: Electronic databases were searched for studies assessing the sensitivity and specificity of PET/CT, PET, CT and MRI. A total of 345 articles from 61 metaanalysis and 3 HTA's were included in this review. Revman software was used to assess the sensitivity, specificity. The Quality Assessment of Diagnostic Accuracy Studies 2 (QUADAS-2).

Results: Total number of studies included in this systematic review and meta-analysis are 345 studies comprising of patients with Cervical cancer, Breast cancer, Head and Neck cancer, Gastric cancer and Lung cancer. The pooled sensitivity and specificity estimate of PET/CT, PET, CT and MRI for detecting above mentioned five cancers. After pooling all studies of CT, MRI, PET and PET/CT for cervical cancer the Forest plot of sensitivity and specificity of CT 0.62 (0.57, 0.67), 0.92 (0.57, 0.67), MRI 0.52 (0.49,0.55), 0.96 (0.95, 0.96) PET 0.90 (0.86.0.93) 0.93(0.91, 0.94) and PET/CT 0.65(0.62, 0.68) 0.97(0.97,0.98) in detecting LN metastases cervical cancer Tumors staging like IA, IB II A, II B, IIIA and IVA in cervical cancer with 95% CI. After pooling all studies, of CT, MRI, PET and PET/CT for Breast cancer the Forest plot of sensitivity and specificity of CT 0.87 (0.85, 0.89), 0.35 (0.33,0.38) MRI 0.97 (0.94, 0.98), 0.88(0.84, 0.91) PET 0.89 (0.86,0.90) 0.91(0.89, 0.93) and PET/CT 0.86(0.83, 0.88) 0.91(0.89, 0.93) in detecting local recurrences, lesion basis, distant metastases, and breast lesions in Breast cancer with 95 % CI After pooling all studies, of CT, MRI, PET and PET/CT for Head and Neck cancer the Forest plot of sensitivity and specificity of CT 0.81(0.77,0.85), 0.72(0.70, 0.74) MRI 0.77(0.74,0.79), 0.78(0.77,0.79) PET 0.20 (0.16, 0.25) 0.94(0.92, 0.96) and PET/CT 0.84(0.82,0.86) 0.88(0.86,0.89) in detecting Lymph node

metastasis, detection of recurrence in patients and detecting neck levels I, II, and III with head and neck cancer Head and neck cancer with 95 % CI. After pooling all studies of CT, MRI, PET and PET/CT for Gastric cancer the Forest plot of sensitivity and specificity of CT 0.77(0.71,0.82), 0.95 (0.93,0.97) MRI 0.84 (0.73, 0.93), 0.85 (0.78,0.91), PET 0.41(0.25,0.58) 0.96 (0.92,0.99) and PET/CT 0.85 (0.77,0.91) 0.95 (0.90, 0.98) in detecting recurrent gastric cancer and Peritoneal metastases in Gastric cancer with 95 % CI. After pooling all studies, of CT, MRI, PET and PET/CT for Lung cancer the Forest plot of sensitivity and specificity of CT 0.71 (0.66, 0.75), 0.82 (0.80,0.85) MRI 0.65(0.59,0.71), 0.91(0.89,0.94) PET 0.83 (0.79, 0.86) 0.93 (0.91 0.95) and PET/CT 0.78(0.77, 0.80) 0.90 (0.89, 0.90) in detecting mediastinal lymph node metastases, detecting stage IIIb, local T and N stage, M-stage lung cancer, solitary pulmonary nodule in lung cancer with 95 % CI. Conclusion: Overall, PET/CT has a better clinical diagnostic accuracy in detecting stages in of different of

*Index Terms* - Positron emission tomography with computer tomography (PET/CT), pelvic node, metaanalysis, Diagnostic test accuracy, sensitivity, and specificity.

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## **I.INTRODUCTION**

Cancer is the leading cause of death in economically developed countries and the second leading cause of death in developing countries [1]. PET/CT is widely used in assessing the extent of disease as part of management for a number of malignancies. PET, now used in conjunction with computed tomography (CT) in PET/CT devices, has had its greatest impact on cancer [2]. PET/CT is used in the early stage,

cancers.

estimation of the therapeutic response, revelation of recurrent disease, and distal metastasis [3]. In India five most leading cancers like Cervical cancer, Breast cancer, Head and Neck cancer, Gastric cancer and Lung cancer were included in this review. Prevalence for Indian women ages 15 to 49 was only 29.8% in India. Lifetime cervical cancer screening prevalence was low (29.8%) and varied by geographic region, ranging from 10.0% in the Northeast Region to 45.2% in the Western Region. Prevalence of screening was higher among women with higher levels of education and household wealth, those who had ever been married, and urban residents. Prevalence of breast cancer is associated with factors like age 20-60, time trends and other risk factors to understand disease burden and pattern in India. About 54% of women with breast cancer in Thiruvananthapuram, which lies in the southernmost part of India. The prevalence of Head and neck cancer is more due to excessive consumption of alcohol, tobacco chewing, smoking. Men face twice the risk of developing head and neck cancer when compared to women. India has a high prevalence of H. pylori infection will have less chances of gastric cancer rates. The prevalence was found to be much higher in the north eastern region of India. Currently, the north eastern state of Mizoram occupies the first position among Indian states and fifth position globally with Age adjusted rate (AAR) of 46.3 to 70.2. The prevalence of gastric cancer is also high in the state of Manipur. Prevalence of lung cancer in different geographical areas nearly, 70% of all the new cases of lung cancer in the world occur in the developed countries. The systematic review and metaanalysis on Diagnostic test accuracy were conducted for the patients with 18-65 years of both male and females was considered in this review. PET/CT was taken as intervention which was compared with PET, CT and MRI with the outcomes of accuracy which was measured in Sensitivity and specificity of PET/CT, PET, CT and MRI for five different cancers. Patients suffering with cancer has some comorbidities like Hypertension, hyperlipidemia, osteoarthritis, hypothyroidism, diabetes mellitus and coronary artery disease. Many observational studies, prospective, retrospective, and Randomized control trails were included in the review along with these studies three Health technology Assessment were also included. The Search was conducted through electronic database like PubMed, Google scholar and Cochrane data bases. The importance of the review is to show how PET/CT, PET, CT, and MRI are clinical effective in treating different types of cancers.

## II. METHODS

#### A. Literature Search

The systematic review was conducted by primary electronic database search. Searches were conducted in PubMed, Google scholar and Cochrane data bases. The Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) statement was developed for this review. The first stage of the data extraction is calculation of sensitivity and specificity for each study, which is conducted as per the standard  $2 \times 2$  table.

#### B. Inclusion criteria

Cancer patients, patients presenting with cervical cancer, breast cancer, Head and neck cancer, gastric cancer, and Lung cancer with the age of 18-65 years in both male and female.

# C. Exclusion Criteria

Excluded studies from the data were pancreas, bladder, or ureter cancer, colon cancer, ovarian cancer, and thyroid cancer because their outcome evaluation methods were different, Loss of quantitative data, Being not relevant to the main subject, Mismatching interventions and outcomes and incorrect population.

## **D.** Screening Process

All articles identified by the search were initially screened for eligibility on title and abstracts. The search results were exported to the reference management software EndNote X7. Duplicate articles were removed, and the remaining titles and abstracts were screened. Full-text articles were retrieved and assessed for eligibility using predefined criteria, for inclusion in the review. The target population was patients suffering with Cervical cancer, Breast cancer, Head and neck cancer, Gastric cancer, and Lung cancer.

#### E. Quality Evaluation

Risk of bias in the included studies refers to the addressing of specific aspects that may have introduced systematic errors (i.e., bias) into a study. The most widely accepted tool for methodological appraisal of the studies included in the review is the Quality Assessment of Diagnostic Accuracy Studies-2 (QUADAS-2) tool, which assesses the quality of the included studies in terms of biases affecting their applicability in four domains: patient selection, index test, reference standard and flow and timing was performed using Review manager software version 5.3. was performed to evaluate the diagnostic accuracy qualities of the 345 eligible articles. A summary estimate of data combined in meta-analysis is considered to be the highest level of evidence.

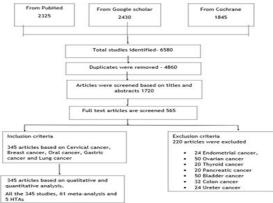
# F. Statistical Analysis

The data from the 345 selected studies was extracted and assembled into a  $2\times2$  table, which consisted of true positive (TP), false-negative (FN), false-positive (FP) and true-negative (TN) values. Forest plots of sensitivity and specificity were generated using Revman.

## III. RESULTS

A total of 6580 articles were identified by the search strategy of different databases like PubMed, Google scholar and Cochrane of which 4860 were removed based on duplicates, 1720 articles were removed based on title and abstract. The full texts of 565 articles were screened, of which 345 articles met the inclusion criteria and were included in this review and 345 articles were taken into consideration based on the qualitative and quantitative analysis.

#### A. Prisma



B. Study characteristics of included Studies

The study characteristics patients suffering with Cervical, Breast, Head and Neck, Gastric Cancer and Lung cancer for PET/CT, PET, MRI, and CT are included in the study. Total number of studies included in this systematic review and meta-analysis all together are 345 studies. All the included studies are Randomized control trail retrospective and prospective study design, respectively. All the studies are clinically, methodologically, and statistically similar in their characteristics with same outcomes. The accuracy of PET/CT, PET, MRI, and CT were performed by meta-analysis through sensitivity

were performed by meta-analysis through sensitivity and specificity which is a dichotomous data of 2x2 table which shows the true positive, true negative, false positive and false negative values of overall accuracy of the device performance was given in the percentage for all five cancers such as Cervical, Breast, Head and Neck, Gastric and Lung Cancer. The results of each individual study are presented. Metaanalysis was performed, the primary measures are pooled sensitivity and specificity of diagnostic measures.

C. Critical Appraisal: Study quality and study design This summarizes the methodological quality of all included studies after assessment by the OUADAS-2 tool [4]. If the answers to all of the questions about a domain were judged as 'yes', indicating a low risk of bias, then this domain was judged to be at low risk of bias. In contrast, if one was judged as 'no', then that would indicate 'high risk', and a potential bias might exist. 'Unclear' indicated insufficient information to determine whether partial verification was present. A summary graphic may be helpful to convey the methodological quality of each study. Risk of bias graph and summary shows how published DTA systematic reviews have graphically summarized the methodology quality of the included studies according to responses to the QUADAS checklist criteria.

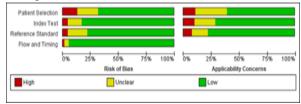
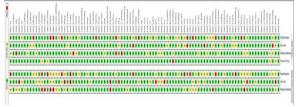


Fig. 1. Risk of bias Graph for Cervical cancer





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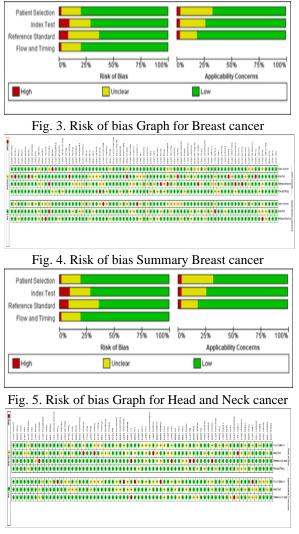
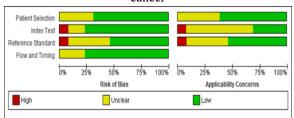
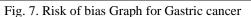


Fig. 6. Risk of bias Summary for Head and Neck cancer





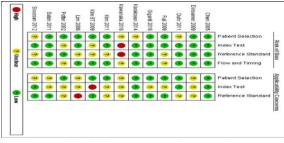


Fig. 8. Risk of bias Summary for Gastric cancer

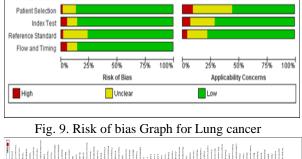




Fig. 10. Risk of bias Summary for Lung cancer

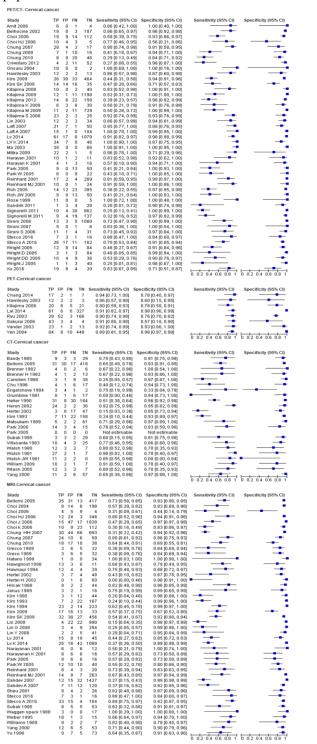
# V. SENSITIVITY ANALYSIS

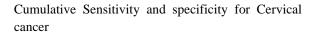
Diagnostic test results are often defined on a dichotomous scale. Where the test result could be negative or above which it could be positive. With such a cutoff, results of a diagnostic test could be placed in a  $2\times2$  table with the test result, which are used to synthesize diagnostic test accuracy studies. The relationship between the sensitivity-specificity pair will define the appropriate approach to synthesizing outcomes. Meta-analysis could be used to assess DTAs of the same condition, in which case the performance between tests should be described together with each test's individual performance.

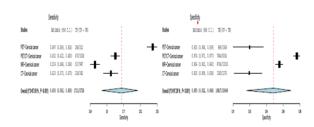
A. Forest plot for Cervical cancer

The Diagnostic test accuracy is represented by the summary statistics and summary line from four sets of basic data, namely true positive (TP), false positive (FP), false negative (FN), and true negative (TN). Representative summary statistics are the sensitivity, specificity. Forest plot of sensitivity and specificity of detecting cervical cancer with PET with the 95 % CI for each population of the included studies. A total of 124 studies were included in this meta-analysis. Among them, 8 studies had reported the performance of PET, 49 studies had reported the performance of PET/CT, 45 studies had reported the performance of MRI and 22 studies had reported the performance of CT, respectively. After pooling all studies, of CT, MRI, PET and PET/CT Forest plot of sensitivity and specificity of CT 0.62 (0.57, 0.67), 0.92 (0.57, 0.67), MRI 0.52 (0.49,0.55), 0.96 (0.95, 0.96) PET 0.90 (0.86, 0.93) 0.93(0.91, 0.94) and PET/CT 0.65 (0.62,

0.68) 0.97(0.97,0.98) in detecting LN metastases cervical cancer Tumors staging like IA, IB IIA, IIB, IIIA and IVA in cervical cancer with 95 % CI for each population of the included studies.





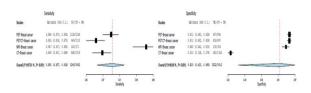


#### B. Forest plot for Breast cancer

PET/CT-Breast cancer

Study								
	TP	FP	FN	TN	Sensitivity (95% C	I) Specificity (95% CI)	Sensitivity (95% CI)	Specificity (95% CI)
Chae 2009	16	12	17	63	0.48 [0.31, 0.68	0.84 [0.74, 0.91]           0.85 [0.71, 0.94]           0.87 [0.70, 0.96]		- <b>-</b> -
Champion 2011 Chang 2014	175	6	12 5	35	0.94 [0.89, 0.9]	0.85 [0.71, 0.94]		
Chang 2014	35	4	5	27	0.88 [0.73, 0.98	0.87 [0.70, 0.96]		
Cochet 2014	39	2	3	19	0.93 [0.81, 0.9	0.90 [0.70, 0.99]	-	
Dirisamer 2010 Filippi 2011	39	0	3	10	0.93 [0.81, 0.99	1.00 [0.69, 1.00]           0.88 [0.47, 1.00]	-	-
Filippi 2011	33	1	5	7	0.87 [0.72, 0.9	6] 0.88 [0.47, 1.00]		
Fueger 2005 Fuster 2008	31	4	2	21 32	0.94 [0.80, 0.99 0.70 [0.46, 0.81	0.84 [0.64, 0.95]		
Fuster 2008	14	0	2 6 1 0	32	0.70 [0.46, 0.8]	0.88         [0.87, 1.00]           3]         0.84         [0.64, 0.95]           3]         1.00         [0.89, 1.00]           0]         0.82         [0.63, 0.94]           0]         0.72         [0.47, 0.90]           3]         1.00         [0.93, 1.00]		
Gallowitsch 2003 Goerres 2003	33 14	5 5	1	23 13	0.97 [0.85, 1.00	0.82 [0.63, 0.94]		
Goerres 2003	14	5	0	13	1.00 (0.77, 1.00	0.72 [0.47, 0.90]		
Grassetto 2011 Haug 2007 Kamel 2003	24	0	3 1	49	0.93 [0.80, 0.9	0.00 (0.93, 1.00)		
Haug 2007	24	1	0	30	0.96 (0.80, 1.0)	0.03 (0.02, 1.00)		
Kamel 2003	20	1	0	30	1.00 [0.87, 1.0	0.97 [0.83, 1.00]		
Kim 2009 Lonneux 2000	31	0	8 2	102 3	0.77 [0.60, 0.9 0.94 [0.80, 0.9	0.60 (0.36, 1.00)	_	
Manohar 2012	44	4	- 1	23	0.94 (0.80, 0.9	0.00[0.12,0.00]	-	_
Mohammed 2020	44	4	1	23 42	0.98 [0.88, 1.0		_	
Mohammed S 2020	20	ő	2	8	0.00 [0.00, 0.0	0.57 (0.63, 1.00)           0.1 (0.06, 1.00)           31 (0.50 (0.12, 0.88)           02 (0.55 (0.66, 0.96)           03 (0.06, 0.96)           04 (0.63, 1.00)           05 (0.63, 1.00)           06 (0.63, 1.00)           07 (0.63, 1.00)           08 (0.63, 1.00)           09 (0.63, 1.00)	_	
Monzawa 2009	20	1	2 12 2	34	0.91 [0.71, 0.91	0.97 (0.85, 1.00)		-
Moon 1998	22	7	2	26	0.92 [0.73, 0.9			
Murakami 2012	24	2	î	20	0.96 (0.80, 1.0)	0.75 (0.61, 0.81)           0]         0.91 [0.71, 0.99]           7]         0.86 [0.71, 0.95]           0.90 [0.81, 0.95]           0.90 [0.84, 0.95]           0.96 [0.91, 0.95]           0.96 [0.91, 0.99]           1.00 [0.59, 1.00]		
Murakami 2012 Palomar 2010	29	2 5	4	20 32	0.96 [0.80, 1.00	0.86 (0.71, 0.95)		
Schmidt 2008	170	8	16	69	0.91 (0.86, 0.9	51 0.90 (0.81, 0.95)		-
Schmidt 2008 Veit 2007	170 19	4	16 0	69 21	0.91 [0.86, 0.9 1.00 [0.82, 1.0	0.84 [0.64, 0.95]		
Veronesi 2007	38	8 4 5	65	128	0.37 [0.28, 0.4]	0.96 (0.91, 0.99)		
Veronesi 2007 Wolfort 2006	13	0	3	7	0.37 [0.28, 0.4]	1.00 [0.59, 1.00]	· · · · · · · · ·	
						.,	0 0.2 0.4 0.6 0.8 1	0 0.2 0.4 0.6 0.8 1
PET-Breast cancer								
Study		PF		TN S	ensitivity (95% CI)	Specificity (95% CI)	Sensitivity (95% CI)	Specificity (95% CI)
Abe 2005	14	1	0	29	1.00 [0.77, 1.00]	0.97 [0.83, 1.00]		
Aide 2007 Avril 1996	21		7	5 17	ensitivity (95% Cl) 1.00 [0.77, 1.00] 0.75 [0.55, 0.89]	0.97 [0.83, 1.00] 0.71 [0.29, 0.96]		
Avril 1996	19	0	5	17	0.79 [0.58, 0.93]	1.00 [0.80, 1.00] 1.00 [0.80, 1.00]		
Barranger 2003 Bender 1997 Dehdashti 1995	3	0 1	2	17	0.20 [0.04, 0.48]	1.00 [0.80, 1.00]	_	
Bender 1997	13	2	1	58	0.93 [0.66, 1.00] 0.89 [0.67, 0.99] 0.81 [0.66, 0.91] 0.94 [0.71, 1.00]	0.97 [0.88, 1.00]		
Dehdashti 1995	17	0	2	2	0.89 [0.67, 0.99]	1.00 [0.16, 1.00]		
Dirisamer 2010 Eubank 2004	34 16	0	8 1	10 40	0.81 [0.66, 0.91]	1.00 [0.69, 1.00] 0.91 [0.78, 0.97]		
Eubank 2004	16	4	1	40	0.94 [0.71, 1.00] 0.20 [0.03, 0.56] 0.97 [0.85, 1.00] 0.85 [0.77, 0.90] 1.00 [0.77, 1.00] 0.94 [0.86, 0.98]	0.91 [0.78, 0.97]		
Fehr 2004	2	1		13	0.20 [0.03, 0.56]	0.93 [0.66, 1.00] 0.82 [0.63, 0.94]	_	
Gallowitsch 2003	33	5		23	0.97 [0.85, 1.00]	0.82 [0.63, 0.94]		
Gilrendo 2006 Goerres 2003	120	2 2	2 1	31 13	0.85 [0.77, 0.90]	0.98 [0.95, 1.00]		
Greco 2001	68 1	5	4	82	1.00 [0.77, 1.00]	0.72 [0.47, 0.90] 0.86 [0.78, 0.93]		
Guillemard 2006	7	3	1	62	0.94 [0.86, 0.98]	1.00 [0.78, 0.93]		
Guillemard 2006 Guller 2002	6	1	8	6 16	0.88 [0.47, 1.00] 0.43 [0.18, 0.71]	1.00 [0.54, 1.00] 0.94 [0.71, 1.00]	_	_
Hathaway 1999	6		õ	10	0.43 (0.18, 0.71) 1.00 (0.54, 1.00) 0.80 (0.70, 0.98) 0.60 (0.42, 0.76) 0.93 (0.76, 0.99) 0.94 (0.71, 1.00) 1.00 (0.40, 1.00) 0.93 (0.77, 0.99) 0.93 (0.66, 1.00) 0.78 (0.40, 0.97) 0.98 (0.95, 0.99)	1.00 [0.03, 1.00]		
Hathaway 1999 Haug 2007 Inoue 2004	23	1	3	1 7	0.88 (0.70, 0.98)	0.88 [0.47, 1.00]		
Inoue 2004	23	2 1	4	44	0.60 [0.70, 0.56]	0.88 [0.47, 1.00] 0.96 [0.85, 0.99]		
	21 25	2	2	23	0.93 (0.76, 0.99)	0.92 [0.74, 0.99]		
Kim 2001	16	2	1	23 8	0.94 [0.71, 1.00]	0.80 [0.44, 0.97]		
Kim 2001 Lin 2002 Moon 1998	4 27	1	0	31 22	1.00 [0.40, 1.00]	0.97 [0.84, 1.00]		
Moon 1998	27	6	2	22	0.93 [0.77, 0.99]	0.7910.59.0.921		
Noh 1998	14 7	0	1	12 42	0.93 [0.68, 1.00]	1.00 [0.74, 1.00] 0.98 [0.88, 1.00]		
Ohta 2001	7	1	1 2	42	0.78 [0.40, 0.97]	0.98 [0.88, 1.00]		
Piperkova 2007	221	2	5	29	0.98 [0.95, 0.99]	0.94 [0.79, 0.99] 1.00 [0.75, 1.00]		
Raileanu 2004	6	0	1	13	0.86 [0.42, 1.00]	1.00 [0.75, 1.00]		-
Schmidt 2008	170	8 1	6	69	0.98 [0.95, 0.99] 0.86 [0.42, 1.00] 0.91 [0.86, 0.95]	0.90 [0.81, 0.95]	•	-
Siggelkow 2003	31	3	4	35	0.89 [0.73, 0.97]	0.92 [0.79, 0.98]		
Siggelkow 2003 Smith 1998	31 13	1	2	22	0.89 [0.73, 0.97] 0.87 [0.60, 0.98]	0.96 [0.78, 1.00]		
Utech 1996 Wolfort 2006	44 2	20	0	60	1.00 [0.92, 1.00]	0.75 [0.64, 0.84] 1.00 [0.59, 1.00]	-	
Wolfort 2006						1 00 0 59 1 001		
	13	0	3	60 7	1.00 [0.92, 1.00] 0.81 [0.54, 0.96]			
Yang 2002	13 100	0	4 2 0 3 5	7 20	0.81 [0.54, 0.96] 0.95 [0.89, 0.98]	0.91 [0.71, 0.99]		
	13	0	3 5	7 20	0.81 [0.54, 0.96] 0.95 [0.89, 0.98]	0.91 [0.71, 0.99]	0 0.2 0.4 0.6 0.8 1	0 0.2 0.4 0.6 0.8 1
Yang 2002 CT-Breast cancer	13	0	3 5	7 20	0.81 [0.54, 0.96] 0.95 [0.89, 0.98]	0.91 [0.71, 0.99]	0 0.2 0.4 0.6 0.8 1	0 0.2 0.4 0.6 0.8 1
CT-Breast cancer	13 100			20	0.95 [0.89, 0.98]	0.91 [0.71, 0.99]	0 0.2 0.4 0.6 0.8 1	
CT-Breast cancer Study	13 100 TP	FF	P FN	20	0.95 [0.89, 0.98] Sensitivity (95% C	0.91 [0.71, 0.99]	0 0.2 0.4 0.6 0.8 1 Sensitivity (95% Cl)	Specificity (95% Cl)
CT-Breast cancer Study	13 100 TP 15	FF 17	P FN	20	0.95 [0.89, 0.98] Sensitivity (95% C	0.91 [0.71, 0.99]	0 0.2 0.4 0.6 0.8 1 Sensitivity (95% CI)	
CT-Breast cancer Study	13 100 TP 15 25	FF 17 16	P FN	20 N TN 0 5 0 17	0.95 [0.89, 0.98] Sensitivity (95% C 1.00 [0.78, 1.0 1.00 [0.86, 1.0	0.91 [0.71, 0.99] I) Specificity (95% CI) 0.23 [0.08, 0.45] 0.49 [0.31, 0.66]	0 0.2 0.4 0.6 0.8 1 Sensitivity (95% CI)	
CT-Breast cancer Study Avril 1996 Chung 2006 Crowe 1994	13 100 TP 15 25 9	FF 17 18 10	FN (0) (0) (0) (0) (0) (0) (0) (0) (0) (0)	20 N TN 0 5 0 17 0 1	0.95 [0.89, 0.98] Sensitivity (95% C 1.00 [0.78, 1.0 1.00 [0.86, 1.0 1.00 16.6, 1.0	0.91 [0.71, 0.99] I) Specificity (95% CI) 0.23 [0.08, 0.45] 0.49 [0.31, 0.66]	Sensitivity (95% CI)	
CT-Breast cancer Study Avril 1996 Chung 2006 Crowe 1994 Eubank 2001	13 100 TP 15 25	FF 17 18 10	FN (0) (0) (0) (0) (0) (0) (0) (0) (0) (0)	20 <b>I TN</b> 0 5 0 17 0 1 2 17	0.95 [0.89, 0.98] Sensitivity (95% C 1.00 [0.78, 1.0 1.00 [0.86, 1.0 1.00 16.6, 1.0	0.91 [0.71, 0.99] I) Specificity (95% CI) 0.23 [0.08, 0.45] 0.49 [0.31, 0.66]	Sensitivity (95% CI)	
CT-Breast cancer Study Avril 1996 Chung 2006 Crowe 1994 Eubank 2001 Euster 2008	13 100 TP 15 25 9 8 14	FF 17 18 10 30	FN 00 00 00 00 00 00 00 00 00 00 00 00 00	20 TN 5 17 17 17 5 17 5 17 5 17 5 17 5 5 17 5 17 5 5 5 5 5 5 5 5 5 5 5 5 5	0.95 [0.89, 0.98] Sensitivity (95% C 1.00 [0.78, 1.0 1.00 [0.86, 1.0 1.00 [0.66, 1.0 0.40 [0.19, 0.6 1.00 [0.77, 1.0	0.91 [0.71, 0.99] Specificity (95% CI) 0 0.23 [0.08, 0.45] 0 0.9 [0.31, 0.66] 0 0.9 [0.00, 0.41] 4 0.85 [0.62, 0.97] 0 0.16 10.60, 0.31]	Sensitivity (95% CI)	
CT-Breast cancer Study Avril 1996 Chung 2006 Crowe 1994 Eubank 2001 Euster 2008	13 100 TP 15 25 9 8 14 28	FF 17 16 10 30	FN 00 00 00 00 00 00 00 00 00 00 00 00 00	20 TN 5 17 17 17 5 17 5 17 5 17 5 17 5 5 17 5 17 5 5 5 5 5 5 5 5 5 5 5 5 5	0.95 [0.89, 0.98] Sensitivity (95% C 1.00 [0.78, 1.0 1.00 [0.86, 1.0 1.00 [0.66, 1.0 0.40 [0.19, 0.6 1.00 [0.77, 1.0	0.91 [0.71, 0.99] Specificity (95% CI) 0 0.23 [0.08, 0.45] 0 0.9 [0.31, 0.66] 0 0.9 [0.00, 0.41] 4 0.85 [0.62, 0.97] 0 0.16 10.60, 0.31]	Sensitivity (95% CI)	
CT-Breast cancer Study Avril 1996 Chung 2006 Crowe 1994 Eubank 2001 Fuster 2008 Gallowitsch 2003 Giltendo 2006	13 100 TP 15 25 9 8 14	FF 17 16 10 30 9	FN 00 00 00 00 00 00 00 00 00 00 00 00 00	20 <b>I</b> TN 0 5 0 17 0 1 2 17 0 6 5 15 2 22	0.95 [0.89, 0.98] Sensitivity (95% C 1.00 [0.78, 1.0 1.00 [0.86, 1.0 1.00 [0.86, 1.0 0.40 [0.19, 0.6 1.00 [0.77, 1.0 0.85 [0.68, 0.9 0.98 [0.94, 1.0	0.91 [0.71, 0.99] 3 Specificity (95% Cl) 0 .0.23 [0.08, 0.45] 0 .0.9 [0.31, 0.66] 0 .0.9 [0.00, 0.41] 4 0.85 [0.62, 0.97] 0 .0.16 [0.06, 0.31] 5 0.63 [0.41, 0.81] 0 0.14 [0.09, 0.21]	Sensitivity (95% Cl)	
CT-Breast cancer Study Avril 1996 Chung 2006 Crowe 1994 Eubank 2001 Fuster 2008 Gallowitsch 2003 Gilrendo 2006	13 100 TP 15 25 9 8 14 28 120 6	FF 17 16 10 30 9	FN 00 00 00 00 00 00 00 00 00 00 00 00 00	20 <b>I</b> TN 0 5 0 17 0 1 2 17 0 6 5 15 2 22 1 8	0.95 [0.89, 0.98] Sensitivity (95% C 1.00 [0.78, 1.0 1.00 [0.86, 1.0 0.40 [0.19, 0.6 1.00 [0.77, 1.0 0.85 [0.86, 0.4, 1.0 0.86 [0.94, 1.0 0.86 [0.94, 1.0 0.86 [0.94, 1.0 0.86 [0.94, 1.0	0.91 [0.71, 0.99] 3 Specificity (95% Cl) 0.23 [0.06, 0.45] 0.09 [0.00, 0.41] 4 0.05 [0.62, 0.97] 0.16 [0.06, 0.31] 5 0.63 [0.41, 0.61] 1 0.41 [0.09, 0.21] 0.14 [0.09, 0.21] 0.14 [0.09, 0.21] 0.15 [0.09, 0.55] 0.5 [0.15, 0.55] 0.5 [0.1	Sensitivity (95% CI)	
CT-Breast cancer Study Avril 1996 Chung 2006 Crowe 1994 Eubank 2001 Fuster 2008 Gallowitsch 2003 Guilerdo 2006 Guiler 2002 Guilerdo 2006 Guiler 2002	13 100 TP 15 25 9 8 14 28 120 6 42	FF 17 10 30 131 16 11	FN 60 00 00 00 00 00 00 00 00 00 00 00 00	20 <b>TN</b> 0 5 0 17 0 1 2 17 0 6 5 15 2 22 1 8 4 61	0.95 [0.89, 0.98] Sensitivity (95% C 1.00 [0.78, 1.0 1.00 [0.86, 1.0 0.40 [0.19, 0.6 1.00 [0.77, 1.0 0.85 [0.86, 0.4, 1.0 0.86 [0.94, 1.0 0.86 [0.94, 1.0 0.86 [0.94, 1.0 0.86 [0.94, 1.0	0.91 [0.71, 0.99] 3 Specificity (95% Cl) 0.23 [0.06, 0.45] 0.09 [0.00, 0.41] 4 0.05 [0.62, 0.97] 0.16 [0.06, 0.31] 5 0.63 [0.41, 0.61] 1 0.41 [0.09, 0.21] 0.14 [0.09, 0.21] 0.14 [0.09, 0.21] 0.15 [0.09, 0.55] 0.5 [0.15, 0.55] 0.5 [0.1	Sensitivity (95% CI)	
CT-Breast cancer Study Avril 1996 Chung 2006 Crowe 1994 Eubank 2001 Fuster 2008 Gallowitsch 2003 Giltendo 2006 Guller 2002 Hagø 1996 Hagø 2007 Haug 2007	13 100 TP 15 25 9 8 14 28 120 6 42 23 16	FF 17 10 30 131 10 131 10 11	FN 00 00 12 00 10 10 10 10 10 10 10 10 10 10 10 10	20 <b>I</b> TN 5 17 12 17 5 15 2 22 18 61 2 7 2 20	0.95 [0.89, 0.98] Sensitivity (95% C 1.00 [0.78, 1.0 1.00 [0.86, 1.0 0.40 [0.19, 0.6 1.00 [0.77, 1.0 0.85 [0.86, 0.4, 1.0 0.86 [0.94, 1.0 0.86 [0.94, 1.0 0.86 [0.94, 1.0 0.86 [0.94, 1.0	0.91 [0.71, 0.99] 3 Specificity (95% Cl) 0.23 [0.06, 0.45] 0.09 [0.00, 0.41] 4 0.05 [0.62, 0.97] 0.16 [0.06, 0.31] 5 0.63 [0.41, 0.61] 1 0.41 [0.09, 0.21] 0.14 [0.09, 0.21] 0.14 [0.09, 0.21] 0.15 [0.09, 0.55] 0.5 [0.15, 0.55] 0.5 [0.1	Sensitivity (95% CI)	
CT-Breast cancer Study Arril 1996 Chung 2006 Chung 2006 Chung 2007 Eubank 2001 Fuster 2008 Gallowitsch 2003 Giller 2002 Hagay 1996 Guiler 2007 Kumar 2006 Kumar 2004	13 100 TP 15 25 9 8 14 28 120 6 42 23 16 9 9	FF 17 18 10 30 9 131 16 11 2 40 63	FN 00 00 12 00 10 10 10 10 10 10 10 10 10 10 10 10	20 <b>TN</b> 5 17 12 17 5 15 2 22 8 61 2 7 2 20	0.95 [0.89, 0.98] Sensitivity (95% C 1.00 [0.78, 1.0 1.00 [0.86, 1.0 0.40 [0.19, 0.6 1.00 [0.77, 1.0 0.85 [0.86, 0.4, 1.0 0.86 [0.94, 1.0 0.86 [0.94, 1.0 0.86 [0.94, 1.0 0.86 [0.94, 1.0	0.91 [0.71, 0.99] 3 Specificity (95% Cl) 0.23 [0.06, 0.45] 0.09 [0.00, 0.41] 4 0.05 [0.62, 0.97] 0.16 [0.06, 0.31] 5 0.63 [0.41, 0.61] 1 0.41 [0.09, 0.21] 0.14 [0.09, 0.21] 0.14 [0.09, 0.21] 0.15 [0.09, 0.55] 0.5 [0.15, 0.55] 0.5 [0.1	Sensitivity (95% CI)	
CT-Breast cancer Study Arril 1996 Chung 2006 Chung 2006 Chung 2007 Eubank 2001 Fuster 2008 Gallowitsch 2003 Giller 2002 Hagay 1996 Guiler 2007 Kumar 2006 Kumar 2004	13 100 TP 15 25 9 8 14 28 120 6 42 23 16 9 19	FFF 17 18 10 32 6 131 16 11 11 2 42 42 42 1	FN 00 00 12 00 10 10 10 10 10 10 10 10 10 10 10 10	20 <b>TN</b> 5 17 1 2 17 6 5 15 2 22 8 61 2 2 20 2 10 2 17 15 2 22 18 19 2 20 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 2 2 2 2 2 2 2 2 2 2 2 2	0.95 [0.89, 0.98] Sensitivity (95% C 1.00 [0.78, 1.0 1.00 [0.86, 1.0 0.40 [0.19, 0.6 1.00 [0.77, 1.0 0.85 [0.86, 0.4, 1.0 0.86 [0.94, 1.0 0.86 [0.94, 1.0 0.86 [0.94, 1.0 0.86 [0.94, 1.0	0.91 [0.71, 0.99] 3 Specificity (95% Cl) 0.23 [0.06, 0.45] 0.09 [0.00, 0.41] 4 0.05 [0.62, 0.97] 0.16 [0.06, 0.31] 5 0.63 [0.41, 0.61] 1 0.41 [0.09, 0.21] 0.14 [0.09, 0.21] 0.14 [0.09, 0.21] 0.15 [0.09, 0.55] 0.5 [0.15, 0.55] 0.5 [0.1	Sensitivity (95% Cl)	
CT-Breast cancer Study Amil 1996 Chung 2006 Chung 2006 Chuye 2006 Gallowtsch 2003 Gallowtsch 2003 Guitenda 2006 Guiter 2006 Guiter 2006 Hauga 1996 Hauga 2006 Lowrics 2004 Mohammed 2020	13 100 TP 15 25 9 8 14 28 120 6 23 16 9 19 19	FFF 12 18 10 32 6 131 16 11 11 2 42 42 42 3	FN 00 00 12 00 10 10 10 10 10 10 10 10 10 10 10 10	20 <b>TN</b> 5 17 17 16 5 15 2 22 8 61 2 20 2 16 5 15 2 22 18 61 2 20 2 10 15 2 22 18 4 10 2 10 15 15 2 22 18 18 19 2 10 10 15 15 2 22 10 15 2 22 10 2 10 15 2 22 10 15 2 22 10 2 10 15 2 22 10 15 2 20 15 2 20 15 2 20 15 2 20 10 15 2 20 10 15 2 20 15 2 20 10 15 2 20 10 15 2 20 10 15 2 20 10 10 10 10 10 10 10 10 10 1	0.95 [0.99, 0.96] Sensitivity (95% C 1.00 [0.76, 1.0 1.00 [0.66, 1.0 1.00 [0.66, 1.0 0.40 [0.19, 0.6 1.00 [0.76, 1.0 0.40 [0.19, 0.6 0.00 [0.77, 1.0 0.85 [0.66, 0.9 0.98 [0.44, 1.0 0.91 [0.74, 0.9 0.92 [0.74, 0.9 0.92 [0.74, 0.9 0.92 [0.74, 0.9 0.92 [0.74, 0.9 0.92 [0.75, 0.9 0.92 [0.76, 0.9 0.92 [0.76, 0.9 0.90 [0.70, 0.9 0.90 [0.70, 0.9 0.76 [0.50 0.9 0.77 [0.50 0.9 0.75 [0.50 0.9] 0.75 [0.50 0.9 0.75 [0.50 0.9] 0.75	0.91 [0.71, 0.99] 3. Specificity (95% C1) 0.23 [0.08, 0.45] 0.49 [0.31, 0.66] 0.09 [0.62, 0.97] 0.16 [0.62, 0.97] 0.16 [0.66, 0.31] 0.03 [0.41, 0.08] 0.03 [0.41, 0.08] 0.03 [0.41, 0.08] 0.03 [0.41, 0.08] 0.05 [0.62, 0.97] 0.03 [0.41, 0.08] 0.05 [0.62, 0.97] 0.05 [0	5 0 0 2 0 4 0 6 0 0 1 Sensitivity (195% CI)	
CT-Breast cancer Study Amil 1996 Chung 2006 Crowe 1994 Eubanic 2001 Fyster 2006 Gallowtisch 2003 Gallowtisch 2003 Gilrendo 2006 Guller 2002 Haug 2007 Kumar 2006 Lowrisc 2004 Mohammed 2020 Mohammed 2020	13 100 TP 15 25 9 8 14 28 120 6 23 16 9 19 19	FFF 12 18 10 32 6 131 16 11 11 2 42 42 42 3	FN 00 00 12 00 10 10 10 10 10 10 10 10 10 10 10 10	20 <b>TN</b> 5 17 17 16 5 15 2 22 8 61 2 20 2 16 5 15 2 22 18 61 2 20 2 10 15 2 22 18 4 10 2 10 15 15 2 22 18 18 19 2 10 10 15 15 2 22 10 15 2 22 10 2 10 15 2 22 10 15 2 22 10 2 10 15 2 22 10 15 2 20 15 2 20 15 2 20 15 2 20 10 15 2 20 10 15 2 20 15 2 20 10 15 2 20 10 15 2 20 10 15 2 20 10 10 10 10 10 10 10 10 10 1	0.95 [0.99, 0.96] Sensitivity (95% C 1.00 [0.76, 1.0 1.00 [0.66, 1.0 1.00 [0.66, 1.0 0.40 [0.19, 0.6 1.00 [0.76, 1.0 0.40 [0.19, 0.6 0.00 [0.77, 1.0 0.85 [0.66, 0.9 0.98 [0.44, 1.0 0.91 [0.74, 0.9 0.92 [0.74, 0.9 0.92 [0.74, 0.9 0.92 [0.74, 0.9 0.92 [0.74, 0.9 0.92 [0.75, 0.9 0.92 [0.76, 0.9 0.92 [0.76, 0.9 0.90 [0.70, 0.9 0.90 [0.70, 0.9 0.76 [0.50 0.9 0.77 [0.50 0.9 0.75 [0.50 0.9] 0.75 [0.50 0.9 0.75 [0.50 0.9] 0.75	0.91 [0.71, 0.99] 3. Specificity (95% C1) 0.23 [0.08, 0.45] 0.49 [0.31, 0.66] 0.09 [0.62, 0.97] 0.16 [0.62, 0.97] 0.16 [0.66, 0.31] 0.03 [0.41, 0.08] 0.03 [0.41, 0.08] 0.03 [0.41, 0.08] 0.03 [0.41, 0.08] 0.05 [0.62, 0.97] 0.03 [0.41, 0.08] 0.05 [0.62, 0.97] 0.05 [0	5 0.2 0.4 0.6 0.8 1 Sensitivity (05% C)	
CT-Breast cancer Study Amil 1996 Chung 2005 Crowe 1994 Eubank 2001 Fuster 2008 Gallowtsch 2003 Giterado 2006 Guiler 2002 Hagay 1996 Haug 2007 Kumar 2005 Lowrics 2004 Mohammed 22020 Ohta 2001 Pipetkowa 2007	13 100 TP 15 255 9 8 14 28 120 6 42 23 16 42 23 16 9 19 13 14 198	FF 17 18 10 32 131 16 13 14 53 13 14 53 13 14 53 13 14 53 14 14 14 14 14 14 14 14 14 14 14 14 14	FN       0    <	20 1 TN 5 17 1 17 5 15 2 27 2 20 4 61 2 7 2 20 8 4 61 2 7 2 20 8 4 01 3 13 3 13	0.95 [0.99, 0.96] Sensitivity (95% C 1.00 [0.76, 1.0 1.00 [0.66, 1.0 1.00 [0.66, 1.0 0.40 [0.19, 0.6 1.00 [0.76, 1.0 0.40 [0.19, 0.6 1.00 [0.77, 1.0 0.85 [0.66, 0.9 0.98 [0.74, 1.9 0.99 [0.55, 0.9 0.92 [0.74, 0.9 0.92 [0.74, 0.9 0.92 [0.74, 0.9 0.92 [0.55, 0.9 1.00 [0.77, 1.0 0.85 [0.55, 0.9]	0.91 [0.71, 0.99] 1) Specificity (95% C0) 0 0.23 [0.08, 0.45] 0 0.49 [0.31, 0.68] 0.09 [0.00, 0.41] 0.65 [0.06, 0.31] 0.61 [0.06, 0.31] 0.61 [0.06, 0.31] 0.31 [0.41, 0.09] 0.32 [0.41, 0.32] 0.32 [0.42, 0.32] 0.32 [0.42, 0.32] 0.32 [0.42, 0.32] 0.32 [0.42, 0.32] 0.32 [0.42, 0.32] 0.32 [0.13, 0.57] 0.32 [0.13, 0.57] 0.3	5 0.2 0.4 0.6 0.6 1 Sensitivity (95% C)	
CT-Breast cancer Study Amit 1996 Chung 2006 Crowe 1994 Eubank 2001 Fuster 2008 Oallowitsch 2003 Oiler 000 Ouller 2002 Hagay 2007 Hagay 2007 Hagay 2007 Mohammed 2020 Mohammed 2020 Mohamed	13 100 TP 15 25 9 8 14 28 120 6 42 23 16 9 19 13 14 198 14	FF 17 18 10 32 131 16 13 14 53 13 14 53 13 14 53 13 14 53 14 14 14 14 14 14 14 14 14 14 14 14 14	FN       0    <	20 1 TN 5 15 2 17 5 15 2 22 1 61 2 7 2 20 2 16 4 61 2 7 2 20 8 4 61 2 7 2 20 8 4 61 3 13 8 3 13 8 5 8	0.95 [0.99, 0.96] Sensitivity (95% C 1.00 [0.76, 1.0 1.00 [0.66, 1.0 1.00 [0.66, 1.0 0.40 [0.19, 0.6 1.00 [0.76, 1.0 0.40 [0.19, 0.6 1.00 [0.77, 1.0 0.85 [0.66, 0.9 0.98 [0.74, 1.9 0.99 [0.55, 0.9 0.92 [0.74, 0.9 0.92 [0.74, 0.9 0.92 [0.74, 0.9 0.92 [0.55, 0.9 1.00 [0.77, 1.0 0.85 [0.55, 0.9]	0.91 [0.71, 0.99] 1) Specificity (95% C0) 0 0.23 [0.08, 0.45] 0 0.49 [0.31, 0.68] 0.09 [0.00, 0.41] 0.65 [0.06, 0.31] 0.61 [0.06, 0.31] 0.61 [0.06, 0.31] 0.31 [0.41, 0.09] 0.32 [0.41, 0.32] 0.32 [0.42, 0.32] 0.32 [0.42, 0.32] 0.32 [0.42, 0.32] 0.32 [0.42, 0.32] 0.32 [0.42, 0.32] 0.32 [0.13, 0.57] 0.32 [0.13, 0.57] 0.3	5 0.2 0.4 0.6 0.8 1 Sensitivity (05% C)	
CT-Breast cancer Study Amil 1996 Chung 2006 Crowe 1994 Eubank 2001 Fuster 2008 Gallowtsch 2003 Gilterado 2006 Guiller 2002 Hagay 1996 Hagay 2007 Kumar 2006 Lowrics 2004 Mohammed 22020 Oha 2001 Piperkova 2007 Radan 2008 Schirmeister 2001	13 100 TP 15 25 9 8 14 28 120 6 422 23 16 9 13 14 198 14 198 14 27	FF 17 10 32 4 131 16 13 4 23 4 13 16 13 16 13 16 13 16 13 16 14 13 16 14 14 15 16 15 16 16 17 16 17 16 17 16 17 16 17 16 17 16 17 16 17 16 17 16 17 16 17 16 17 16 17 16 17 17 16 17 17 16 17 17 16 17 17 16 17 17 17 17 17 17 17 17 17 17 17 17 17	FN 00 00 120 00 120 00 120 00 120 00 120 00 120 00 100 00 100 00 100 00 100 00 100 00	20 <b>I</b> TN 5 5 17 5 17 5 17 5 17 5 6 5 2 2 2 2 2 2 2 2 2 2 2 2 2	0.95 [0.99, 0.96] Sensitivity (95% C 1.00 [0.76, 1.0 1.00 [0.66, 1.0 1.00 [0.66, 1.0 0.40 [0.19, 0.6 1.00 [0.76, 1.0 0.40 [0.19, 0.6 1.00 [0.77, 1.0 0.85 [0.66, 0.9 0.98 [0.74, 1.9 0.99 [0.55, 0.9 0.92 [0.74, 0.9 0.92 [0.74, 0.9 0.92 [0.74, 0.9 0.92 [0.55, 0.9 1.00 [0.77, 1.0 0.85 [0.55, 0.9]	0.91 [0.71, 0.99] 1) Specificity (95% C0) 0 0.23 [0.08, 0.45] 0 0.49 [0.31, 0.68] 0.09 [0.00, 0.41] 0.65 [0.06, 0.31] 0.61 [0.06, 0.31] 0.61 [0.06, 0.31] 0.31 [0.41, 0.09] 0.32 [0.41, 0.32] 0.32 [0.42, 0.32] 0.32 [0.42, 0.32] 0.32 [0.42, 0.32] 0.32 [0.42, 0.32] 0.32 [0.42, 0.32] 0.32 [0.13, 0.57] 0.32 [0.13, 0.57] 0.3	5 0.2 0.4 0.6 0.0 1 Sensitivity (95% C)	
CT-Breast cancer Study Amil 1986 Chung 2006 Crowe 1994 Eubank 2001 Fusber 2008 Gallowitsch 2003 Gifendo 2006 Guiler 2002 Magay 1906 Hagay 1906 Hagay 1906 Moharmed S2020 Moharmed S2020 Moharmed S2020 Moharmed S2020 Schirmeister 2001 Schirmeister 2005	13 100 TP 15 25 9 8 14 28 120 6 42 23 16 42 23 16 9 19 13 14 198 14 198 14 7 7 47	FF 17 10 32 4 131 16 13 4 23 4 13 16 13 16 13 16 13 16 13 16 14 13 16 14 14 15 16 15 16 16 17 16 17 16 17 16 17 16 17 16 17 16 17 16 17 16 17 16 17 16 17 16 17 16 17 16 17 17 16 17 17 16 17 17 16 17 17 16 17 17 17 17 17 17 17 17 17 17 17 17 17	FN 00 00 120 00 120 00 120 00 120 00 120 00 120 00 100 00 100 00 100 00 100 00 100 00	20 <b>I</b> TN 5 5 17 5 17 5 17 5 17 5 6 5 2 2 2 2 2 2 2 2 2 2 2 2 2	0.95 [0.98, 0.98] Sensitivity (05% C 1.00 [0.76, 1.0 1.00 [0.76, 1.0 1.00 [0.76, 1.0 0.40 [0.14, 0.6 1.00 [0.77, 1.0 0.55 [0.66, 0.9 0.98 [0.94, 1.0 0.56 [0.42, 1.0 0.56 [0.44, 0.9 0.92 [0.74, 0.9 0.92 [0.55, 0.9 1.00 [0.77, 1.0 0.76 [0.55, 0.9 1.00 [0.77, 1.0 0.70 [0.44, 0.9 0.92 [0.55, 0.9 1.00 [0.77, 1.0 0.70 [0.44, 0.9 0.70 [0.44, 0.9 0.70 [0.44, 0.9 0.70 [0.70, 0.9 0.70 [0.44, 0.9 0.70 [0.44, 0.9 0.70 [0.77, 0.9 0.90 [0.77, 0.9]	0.91 [0.71, 0.99] 1) Specificity (95% C0) 0 0.23 [0.08, 0.45] 0 0.49 [0.31, 0.68] 0.09 [0.00, 0.41] 0.65 [0.06, 0.31] 0.61 [0.06, 0.31] 0.61 [0.06, 0.31] 0.31 [0.41, 0.09] 0.32 [0.41, 0.32] 0.32 [0.42, 0.32] 0.32 [0.42, 0.32] 0.32 [0.42, 0.32] 0.32 [0.42, 0.32] 0.32 [0.42, 0.32] 0.32 [0.13, 0.57] 0.32 [0.13, 0.57] 0.3	5 0.2 0.4 0.6 0.0 1 Sensitivity (05% CI)	
CT-Breast cancer Study Amit 1996 Chung 2006 Crowe 1934 Crowe 1934 Crowe 1934 Crowe 1934 Crowe 1934 Crowe 1934 Crowe 1934 Crowe 2006 Culler 2006 Haug 2007 Kumar 2006 Lowics 2004 Mohammed S 2020 Mohammed S 2020 Ohta 2001 Piperkova 2007 Ternier 2006 Calimin 2006 Color 2001 Ternier 2006	13 100 TP 15 25 25 9 9 8 14 28 120 6 42 22 120 6 42 23 23 16 6 9 9 9 19 13 14 4 198 42 27 5 7 8 8 14 28 7 8 8 8 14 29 8 8 8 14 20 8 8 8 15 15 15 15 15 15 15 15 15 15 15 15 15	FF 12 18 10 23 21 11 10 23 21 11 22 23 11 10 23 21 11 22 25 12 12 25 25 12 25 25 12 25 25 25 25 25 25 25 25 25 25 25 25 25		20 <b>I</b> TN 5 5 17 5 17 5 16 5 15 2 2 2 2 16 5 15 2 2 2 2 2 2 2 2 2 2 2 2 2	0.95 [0.98, 0.98] Sensitivity (05% C 1.00 [0.76, 1.0 1.00 [0.76, 1.0 1.00 [0.76, 1.0 0.40 [0.14, 0.6 1.00 [0.77, 1.0 0.55 [0.66, 0.9 0.98 [0.94, 1.0 0.56 [0.42, 1.0 0.56 [0.44, 0.9 0.92 [0.74, 0.9 0.92 [0.55, 0.9 1.00 [0.77, 1.0 0.76 [0.55, 0.9 1.00 [0.77, 1.0 0.70 [0.44, 0.9 0.92 [0.55, 0.9 1.00 [0.77, 1.0 0.70 [0.44, 0.9 0.70 [0.44, 0.9 0.70 [0.44, 0.9 0.70 [0.70, 0.9 0.70 [0.44, 0.9 0.70 [0.44, 0.9 0.70 [0.77, 0.9 0.90 [0.77, 0.9]	0.91 [0.71, 0.99] 1) Specificity (95% C0) 0 0.23 [0.08, 0.45] 0 0.49 [0.31, 0.68] 0.09 [0.00, 0.41] 0.65 [0.06, 0.31] 0.61 [0.06, 0.31] 0.61 [0.06, 0.31] 0.31 [0.41, 0.09] 0.32 [0.41, 0.32] 0.32 [0.42, 0.32] 0.32 [0.42, 0.32] 0.32 [0.42, 0.32] 0.32 [0.42, 0.32] 0.32 [0.42, 0.32] 0.32 [0.13, 0.57] 0.32 [0.13, 0.57] 0.3	5 0 0 2 0 4 0 6 0 0 1 Sensitivity (95% C)	
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CT-Breast cancer Study Amit 1986 Amit 1986 Crowe 1984 Eubank 2001 Fuster 2008 Gallowitsch 2003 Gallowitsch 2003 Guitendo 2006 Guitendo 2006 Guitendo 2006 Haugo 2007 Haugo 2007 Radan 2006 Schirmeister 2001 Ternier 2006 Vander 2002 Veronesi 2007 Veronesi 2007	13 100 TP 15 255 9 8 14 28 120 6 6 23 16 9 9 9 9 9 13 13 13 14 198 14 27 7 7 7 8 8 8 8 66 6 6 9 9 9 9 9 9 9 9 9 9 9 9	FF 10 32 131 16 12 12 8 45 45 128 128 128		20 1 TN 5 0 1 7 0 2 20 2 20 1 3 3 3 13 5 5 46 5 46 5 46 5 46 5 46 4 7 4 7 4 7 4 7 4 7 4 7 4 7 4 7	$\begin{array}{c} 0.95 \ [0.99, 0.98] \\ \hline \\ 5 nearbierty \ [195 a \\ c \\ 1 \ 001 \ 70, 1 \ 70, 1 \ 001 \ 70, 1 \$	0 91 [0.71, 0.99] 1) Specificity (19% CI) 0 22 [0.08, 0.48] 0.49 [0.31, 0.68] 0.49 [0.31, 0.68] 0.49 [0.31, 0.68] 0.65 [0.62, 0.87] 0.65 [0.64, 0.61] 0.65 [0.64, 0.61] 0.65 [0.64, 0.61] 0.65 [0.64, 0.61] 0.65 [0.64, 0.61] 0.65 [0.64, 0.61] 0.65 [0.64, 0.62] 0.65 [0.64, 0.64] 0.65 [0.64, 0.64]\\ 0.65 [0.64, 0.64]\\ 0.65 [0.64, 0.64]\\ 0.65 [0.64, 0.64]\\ 0.65 [0.64, 0.64]\\ 0.65 [0.64, 0.64]\\ 0.65 [0.64, 0.64]\\ 0.65 [0.64, 0.64]\\ 0.65 [0.64, 0.64]\\ 0.65 [0.64, 0.64]\\ 0.65 [0.64, 0.64]\\ 0.65 [0.64, 0.64]\\ 0.65 [0	5 0.2 0.4 0.6 0.8 1 Sensitivity (05% C)	
CT-Breast cancer Study Amil 1996 Chung 2006 Chung 2006 Chung 2008 Chung 2008 Chung 2008 Otilerabo 2006 Otilerabo 2006 Otilerabo 2006 Otilerabo 2006 Otilerabo 2006 Otilerabo 2006 Otilerabo 2006 Otilerabo 2006 Otilerabo 2006 Mohammed S 2020 Otha 2001 Piperkova 2007 Readan 2006 Mohammed S 2020 Otha 2001 Territer 2006 Vander 2002 Veronesi 2007 Veronesi 2007	13 100 TP 15 25 25 25 9 9 8 14 28 23 120 0 6 42 23 14 198 120 0 6 42 23 114 198 14 29 9 9 9 9 9 19 33 14 4 29 8 8 8 9 9 9 9 9 9 9 9 8 8 14 15 25 5 25 5 25 5 25 5 25 5 25 5 25	FF7 10 32 13 11 11 12 40 51 12 8 5 6 12 8 5 12 8 5 12 8 5 12 10 10 10 10 10 10 10 10 10 10 10 10 10	FN 0 0 1 2 0 1 2 1 2 2 3 1 3 8 8 8 8 5 5 5 7 8 8 9 0 3 5 5	20 1 TN 5 0 5 1 1 2 17 5 15 2 22 1 8 4 27 2 20 6 5 2 22 2 20 8 4 4 00 6 5 2 22 2 20 8 4 4 00 6 5 7 2 2 20 8 4 4 00 6 5 7 5 7 5 7 5 7 5 7 5 7 5 7 5 7	0.95 (0.89, 0.89] Sensibility (19% C 1.00 [0.74, 1.0 1.00 [0.74, 1.0 1.00 [0.74, 1.0 1.00 [0.74, 1.0 1.00 [0.74, 1.0 1.00 [0.74, 1.0 0.95 [0.84, 0.0 0.95 [0.74, 0.9 0.95 [0.74, 0.9 0.92 [0.75, 0.9 0.98 [0.75, 0.9 0.98 [0.75, 0.9] 0.98 [0.75, 0.9] 0.98 [0.75, 0.9] 1.00 [0.83, 1.0] 1.00	0 91 [0.71, 0.99] 0 59cc/ficity (19% C) 0 2.21 [0.96, 0.42] 0 40 [0.31, 0.66] 0 40 [0.31, 0.66] 0 40 [0.31, 0.66] 0 41 [0.30, 0.42] 0 42 [0.40, 0.42] 0 42 [0	Sensitivity (89% C)	
CT-Breast cancer Study Amil 1986 Amil 1986 Crowe 1994 Eubank 2001 Fuster 2008 Gallowitsch 2003 Gallowitsch 2003 Guitendo 2006 Guitendo 2006 Guitendo 2006 Mohammed 2020 Ohta 2001 Piperkova 2007 Radan 2006 Schirmeister 2001 Ternier 2006 Vander 2002 Veroneal 2007	13 100 TP 15 255 9 8 14 28 120 6 6 23 16 9 9 9 9 9 13 13 13 14 198 14 27 7 7 7 8 8 8 8 66 6 6 9 9 9 9 9 9 9 9 9 9 9 9	FF 10 32 131 16 12 12 8 45 45 128 128 128	FN 0 0 1 2 0 1 2 1 2 2 3 1 3 8 8 8 8 5 5 5 7 8 8 9 0 3 5 5	20 1 TN 5 0 5 1 1 2 17 5 15 2 22 1 8 4 27 2 20 6 5 2 22 2 20 8 4 4 00 6 5 2 22 2 20 8 4 4 00 6 5 7 2 2 20 8 4 4 00 6 5 7 5 7 5 7 5 7 5 7 5 7 5 7 5 7	$\begin{array}{c} 0.95 \ [0.99, 0.98] \\ \hline \\ 5 nearbierty \ [195 a \\ c \\ 1 \ 001 \ 70, 1 \ 70, 1 \ 001 \ 70, 1 \$	0 91 [0.71, 0.99] 0 59cc/ficity (19% C) 0 2.21 [0.96, 0.42] 0 40 [0.31, 0.66] 0 40 [0.31, 0.66] 0 40 [0.31, 0.66] 0 41 [0.30, 0.42] 0 42 [0.40, 0.42] 0 42 [0	Sensitivity (85% C)	Specificity (95% C)
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CT-Breast cancer Study Anil 1996 Chung 2006 Chung 2006 Chung 2006 Chung 2006 Chung 2006 Chung 2006 Chung 2006 Chung 2007 Hagay 1996 Hagay 1996 Hagay 2007 Kumar 2006 Lowics 2004 Mohammed \$2020 Mohammed \$2020 Mohammed \$2020 Mohammed \$2020 Wohne 2001 Schirmeister 2002 Verones 12004 Wolfort 2006 Yufan 1999 Yufan 1999 Yufan 1999 Yufan 1999 Yufan 1999 Yufan 1999	13 100 TP 15 25 25 25 9 9 8 14 28 23 120 0 6 42 23 14 198 120 0 6 42 23 114 198 14 29 9 9 9 9 9 13 14 4 29 8 8 8 8 8 8 9 9 9 9 9 9 8 8 14 15 15 25 5 25 5 25 5 25 5 25 5 25 5	FF7 10 32 13 11 11 12 40 51 12 8 5 6 12 8 5 12 8 5 12 8 5 12 10 10 10 10 10 10 10 10 10 10 10 10 10	FN 0 0 1 2 0 1 2 1 2 2 3 1 3 8 8 8 8 5 5 5 7 8 8 9 0 3 5 5	20 1 TN 5 0 5 1 1 2 17 5 15 2 22 1 8 4 27 2 20 6 5 2 22 2 20 8 4 4 00 6 5 2 22 2 20 8 4 4 00 6 5 7 2 2 20 8 4 4 00 6 5 7 5 7 5 7 5 7 5 7 5 7 5 7 5 7	0.95 (0.89, 0.89] Sensibility (19% C 1.00 [0.74, 1.0 1.00 [0.74, 1.0 1.00 [0.74, 1.0 1.00 [0.74, 1.0 1.00 [0.74, 1.0 1.00 [0.74, 1.0 0.95 [0.84, 0.0 0.95 [0.74, 0.9 0.95 [0.74, 0.9 0.92 [0.75, 0.9 0.98 [0.75, 0.9 0.98 [0.75, 0.9] 0.98 [0.75, 0.9] 0.98 [0.75, 0.9] 1.00 [0.83, 1.0] 1.00	0 91 [0.71, 0.99] 0 59cc/ficity (19% C) 0 2.21 [0.96, 0.42] 0 40 [0.31, 0.66] 0 40 [0.31, 0.66] 0 40 [0.31, 0.66] 0 41 [0.30, 0.42] 0 42 [0.40, 0.42] 0 42 [0	Sensitivity (85% C)	Specificity (95% C)
CT-Breast cancer Study Amil 1966 Chung 2006 Chung 2006 Chung 2008 Chung 2008 Chung 2008 Gallowitsch 2003 Gallowitsch 2003 Gallowitsch 2003 Gallowitsch 2003 Gallowitsch 2003 Chung 2007 Kumar 2006 Schirmeister 2003 Vander 2002 Vander 2002 Vander 2002 Vander 2002 Vander 2003 Vander 2003 Vander 2003 Vander 2003 Vander 2003 Vander 2003 Vander 2003 Vander 2003 Vander 2003 Vander 2004 Welfort 2006 Kumar 2008 Vander 2004 MiBl-Breast cancer	13 100 TPP 15 25 25 9 8 14 42 23 16 6 42 23 16 6 42 23 16 9 9 13 14 198 13 14 42 23 31 6 6 8 9 9 9 3 3 8 6 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	FF 17 80 0 2 2 2 1 3 1 6 1 1 2 2 3 2 1 3 1 6 1 1 2 4 5 1 2 3 2 6 5 3 7 2 6 5 0 2 1 6 9 1 1 5 0 0 2 1 1 5 0 0 2 1 1 1 5 0 0 2 1 1 5 0 0 2 1 1 1 5 0 0 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		20 <b>i</b> TN 5 5 17 5 18 5 2 2 18 18 18 18 18 18 18 18 18 18	$\begin{array}{c} 0.95 \left( 0.99, 0.98 \right) \\ \hline \\ \textbf{Sensitivity} \left( 195\% C \\ 1.00 \left[ 73, 8 \right], 0.0 \\ 1.00 $	0 91 [0.71, 0.99] 0 51 [0.71, 0.99] 0 50 [0.00, 0.41] 0 40 [0.31, 0.66] 0 .040 [0.31, 0.66] 0 .040 [0.31, 0.66] 0 .050 [0.00, 0.41] 0 .050 [0.00, 0.41] 0 .050 [0.41, 0.61] 0 .050 [0.41, 0.61] 0 .050 [0.41, 0.61] 0 .050 [0.41, 0.61] 0 .050 [0.42, 0.51] 0 .050 [0.40, 0.5	Sensitivity (85% CI)	Specificity (95% C)
CT-Breast cancer Study Awil 1996 Chung 2006 Chung 2006 Chung 2006 Chung 2006 Chung 2006 Chung 2006 Chung 2007	13 100 TP 155252525252525252525252525252525252525	FFF 17 18 10 13 13 11 42 37 12 45 37 12 8 4 5 10 37 12 8 91 91 FN	P FN 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	20 1 TN 0 5 0 17 0 1 0 5 15 2 7 0 6 5 15 2 8 4 61 1 2 2 8 4 61 1 2 2 16 8 61 1 3 5 15 2 2 7 8 8 4 61 1 3 5 15 5 15 2 2 7 8 8 4 61 1 3 5 15 5 15 5 2 15 5 3 13 5 5 15 5 15 5 15 5 15 5 15 5 2 15 5 15	0 95 (0.99, 0.98] Sensitivity (19% C 1,00 (17.8, 1,0 1,00 (10.8, 1,0 1,00 (10.8, 1,0 1,00 (10.8, 1,0 1,00 (10.8, 1,0 1,00 (10.8, 1,0 1,00 (10.8, 1,0 1,00 (10.8, 1,0 1,00 (10.8, 1,0 1,00 (10.8, 1,0 1,00 (10.8, 1,0 1,00 (10.8, 1,0 1,00 (10.8, 1,0 1,00 (10.8, 1,0 1,00 (10.8, 1,0 1,00 (10.8, 1,0 1,00 (10.8, 1,0 1,0 1,00 (10.8, 1,0 1,0 1,00 (10.8, 1,0 1,0 1,0 1,00 (10.8, 1,0 1,0 1,0 1,0 1,0 1,0 1,0 1,0 1,0 1,0	0 91 [0.71, 0.99] 0 59cc/ficity (19% C) 0 2.21 (0.91, 0.42) 0 49 [0.71, 0.89] 0 49 [0.72, 0.11, 0.68] 0 49 [0.72, 0.11, 0.68] 0 49 [0.72, 0.11, 0.68] 0 41 [0.70, 0.71] 0 42 [0.71, 0.11] 0 42 [0.71, 0.11] 0 42 [0.71, 0.11] 0 42 [0.72, 0.72] 0 41 [0.72, 0.72] 0 42 [0.72, 0.72] 0 41 [0.	Sensitivity (85% C)	Specificity (95% C)
CT-Breast cancer Study Awil 1996 Chung 2006 Chung 2006 Chung 2006 Chung 2006 Chung 2006 Chung 2006 Chung 2007	13 100 TP 155252525252525252525252525252525252525	FFF 17 18 10 13 13 11 42 37 12 45 37 12 8 4 5 10 37 12 8 91 91 FN	P FN 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	20 1 TN 0 5 0 17 0 1 0 5 15 2 7 0 6 5 15 2 8 4 61 1 2 2 8 4 61 1 2 2 16 8 61 1 3 5 15 2 2 7 8 8 4 61 1 3 5 15 5 15 2 2 7 8 8 4 61 1 3 5 15 5 15 5 2 15 5 3 13 5 5 15 5 15 5 15 5 15 5 15 5 2 15 5 15	0 95 (0.99, 0.98] Sensitivity (19% C 1,00 (17.8, 1,0 1,00 (10.8, 1,0 1,00 (10.8, 1,0 1,00 (10.8, 1,0 1,00 (10.8, 1,0 1,00 (10.8, 1,0 1,00 (10.8, 1,0 1,00 (10.8, 1,0 1,00 (10.8, 1,0 1,00 (10.8, 1,0 1,00 (10.8, 1,0 1,00 (10.8, 1,0 1,00 (10.8, 1,0 1,00 (10.8, 1,0 1,00 (10.8, 1,0 1,00 (10.8, 1,0 1,00 (10.8, 1,0 1,0 1,00 (10.8, 1,0 1,0 1,00 (10.8, 1,0 1,0 1,0 1,00 (10.8, 1,0 1,0 1,0 1,0 1,0 1,0 1,0 1,0 1,0 1,0	0 91 [0.71, 0.99] 0 59cc/ficity (19% C) 0 2.21 (0.91, 0.42) 0 49 [0.71, 0.89] 0 49 [0.72, 0.11, 0.68] 0 49 [0.72, 0.11, 0.68] 0 49 [0.72, 0.11, 0.68] 0 41 [0.70, 0.71] 0 42 [0.71, 0.11] 0 42 [0.71, 0.11] 0 42 [0.71, 0.11] 0 42 [0.72, 0.72] 0 41 [0.72, 0.72] 0 42 [0.72, 0.72] 0 41 [0.	Sensitivity (85% CI)	Specificity (95% C)
CT-Breast cancer Study Awil 1996 Chung 2006 Chung 2006 Chung 2006 Chung 2006 Chung 2006 Chung 2006 Otilon 2001 Otilon 2006 Otilon 2007 Hagay 1996 Hagay 2007 Hagay 20	13 100 TPP 15 255 9 9 8 8 14 28 120 6 6 6 42 23 31 6 6 6 42 23 31 6 19 9 13 31 4 198 199 13 31 4 4 297 9 9 9 0 0 8 8 90 90 8 90 90 90 90 90 90 90 90 90 90 90 90 90	FF 17 16 10 10 11 11 12 42 10 10 10 10 10 10 10 10 10 10 10 10 10	P FN 0 0 12 2 2 2 6 6 7 1 6 0 0 3 5 1 TN 6 5 8 1 5 1 5 1 5 1 5 1 5 1 5 1 5 1 5 1 5	4 TN 5 C C C C C C C C C C C C C C C C C C C	9 95 (0.99, 0.98] Sensitivity (19% C 1,00 [0.78, 1, 0] 1,00 [0.86, 1, 0] 1,00 [0.86, 1, 0] 1,00 [0.86, 1, 0] 1,00 [0.78,	0 91 [0.71, 0.99] 0 51 [0.71, 0.99] 0 58ec/ficity (19% C) 0 4 0 [0.31, 0.66] 0 5 [0.66, 0.31] 0 5 [0.66, 0.31] 0 5 [0.66, 0.31] 0 4 0 [0.96, 0.31] 0 4 0 [0.97, 0.31] 0 4 0 [0.97	Sensitivity (85% CI)	Specificity (95% C)
CT-Breast cancer Study Avril 1996 Chung 2006 Chung 2006 Chung 2006 Chung 2006 Chung 2006 Chung 2006 Guiler 2002 Guiler 2002 Guiler 2002 Guiler 2002 Guiler 2002 Mohammed 5 2020 Mohammed 5 2020 Mohammed 5 2020 Koham 200 Koham 20	13 100 TPP 15 255 9 9 8 8 14 28 120 6 6 6 42 23 31 6 6 6 42 23 31 6 19 9 13 31 4 198 199 13 31 4 4 297 9 9 9 0 0 8 8 90 90 8 90 90 90 90 90 90 90 90 90 90 90 90 90	FF 17 18 10 10 13 14 16 15 16 26 27 12 28 10 10 10 10 10	FN 00012200121122200000000000000000000000	4 TN 5 C C C C C C C C C C C C C C C C C C C	0.95 (0.99, 0.98] Sensitivity (19% C 1,00 (17,8, 1,0 1,00 (18,6, 1,0 1,00 (18,6, 1,0 1,00 (18,6, 1,0 1,00 (18,6, 1,0 1,00 (18,6, 1,0 1,00 (18,6, 1,0 1,00 (18,6, 1,0 1,00 (18,6, 1,0 1,00 (18,6, 1,0 1,00 (18,6, 1,0 1,00 (18,6, 1,0 1,00 (18,6, 1,0 1,00 (18,6, 1,0 1,00 (18,6, 1,0 1,00 (18,6, 1,0 1,00 (18,1,	0 91 [0.71, 0.99] 0 59c (ficity (15% CI) 0 2.22 [0.08, 0.45] 0 40 [0.31, 0.66] 0 .040 [0.31, 0.66] 0 .090 [0.00, 0.11] 0 .016 [0.06, 0.21] 0 .025 [0.11, 0.45] 0 .025 [0.	Sensitivity (85% CI)	Specificity (95% C)
CT-Breast cancer Study Anti 1966 Chung 2006 Chung 2006 Chung 2006 Chung 2006 Chung 2006 Chung 2007 Hagay 1996 Haug 2007 Hagay 1997 Haug 2007 Hagay 1997 Haug 2007 Hagay 1997 Haug 2007 Hagay 1998 Ha	13 100 TPP 15 255 9 9 8 8 14 28 28 120 6 6 42 23 31 6 42 23 31 4 19 9 9 9 13 3 14 198 8 6 6 6 25 25 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	FF 17 180 100 131 16 11 42 30 10 10 10 10 10 10 10 10 10 10 10 10 10	<ul> <li>FN 0 0 0 12 0 4 1 4 2 2 2 3 1 4 2 2 2 3 1 4 2 2 2 3 1 4 4 2 2 2 3 1 4 4 2 2 2 3 1 4 4 4 4 0 0 0 2 3 1 1 1 5 8 9 1 1 1 1 5 8 9 1 1 1 1 5 8 9 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1</li></ul>	4 TN 5 C C C C C C C C C C C C C C C C C C C	0.95 (0.99, 0.98] Sensitivity (19% C 1,00 (17,8, 1,0 1,00 (18,6, 1,0 1,00 (18,6, 1,0 1,00 (18,6, 1,0 1,00 (18,6, 1,0 1,00 (18,6, 1,0 1,00 (18,6, 1,0 1,00 (18,6, 1,0 1,00 (18,6, 1,0 1,00 (18,6, 1,0 1,00 (18,6, 1,0 1,00 (18,6, 1,0 1,00 (18,6, 1,0 1,00 (18,6, 1,0 1,00 (18,6, 1,0 1,00 (18,6, 1,0 1,00 (18,1,	0 91 [0.71, 0.99] 0 59c (ficity (15% CI) 0 2.22 [0.08, 0.45] 0 40 [0.31, 0.66] 0 .040 [0.31, 0.66] 0 .090 [0.00, 0.11] 0 .016 [0.06, 0.21] 0 .025 [0.11, 0.45] 0 .025 [0.	Sensitivity (85% CI)	Specificity (95% C)
CT-Breast cancer Study Awril 1996 Chung 2006 Chung 2006 Chung 2008 Chung 2008 Chung 2008 Chung 2008 Other 2001 Haga 1996 Haug 2000 Other 2001 Haug 2100 Mohammed 5 2020 Woham 2001 Ferrite 2006 Vander 2002 Vander 2002 Vander 2002 Vander 2002 Vander 2002 Bender 1997 Ebender 1997 Dewn 1998 Terweit 207	13 100 TPP 15 25 25 9 8 1200 6 42 22 28 1200 6 42 22 6 42 22 6 42 22 6 42 22 6 8 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	FF 17 18 10 10 10 10 10 10 10 10 10 10 10 10 10	FR 0 0 0 1 2 0 1 1 4 2 2 2 8 8 8 8 5 5 7 8 9 0 8 5 1 1 1 5 8 9 1 8 8 8 8 5 5 7 8 9 0 8 5 1 T 1 6 8 9 1 8 8 8 8 8 5 5 7 8 9 0 8 5 1 T 1 6 8 9 1 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	4 TN 5 Constant 4 TN 5 Constant 5 Cons	9 95 (0.99, 0.98] Sensitivity (19% C 1,00 (17%, 1,01 1,00 (16%, 1),00 (16\%, 1)	0 91 [0.71, 0.99] 0 59cc/ficity (19% C) 0 2.21 (0.96, 0.62) 0 40 [0.21, 0.66] 0 40 [0.21, 0.66] 0 40 [0.22, 0.47] 0 40 [0.20, 0.47] 0 41 [0.06, 0.21] 0 41 [0.06, 0.21] 0 41 [0.06, 0.21] 0 41 [0.06, 0.21] 0 42 [0.22, 0.47] 0 42 [0.47, 0.47] 0 42 [0.47, 0.47] 0 41 [0	Sensitivity (85% CI)	Specificity (95% C)
CT-Breast cancer Study Awril 1996 Chung 2006 Chung 2006 Chung 2006 Chung 2006 Chung 2006 Chung 2006 Chung 2007	13 100 TPP 15 25 25 9 8 1200 6 42 22 28 1200 6 42 22 6 42 22 6 42 22 6 42 22 6 8 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	FF 17 160 23 2 1310 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	FR 0 0 0 1 2 0 1 1 0 1 0	4 TN 5 4 TN 5 15 17 17 17 17 17 17 17 17 17 17	0 95 (0.99, 0.98] Sensitivity (19% C 1,00 [0.78, 1, 0 1,00 [0.78, 1, 0 1,00 [0.86, 1, 0 1,00 [0.86, 1, 0 1,00 [0.86, 1, 0 0,98 [0.44, 1, 0 0,98 [0.45, 1, 0] 0,98 [0.45, 1, 0] 0,	0 91 [0.71, 0.99] 0 59cc/ficity (19% C) 0 2.21 (0.96, 0.62) 0 40 [0.21, 0.66] 0 40 [0.21, 0.66] 0 40 [0.22, 0.47] 0 40 [0.20, 0.47] 0 41 [0.06, 0.21] 0 41 [0.06, 0.21] 0 41 [0.06, 0.21] 0 41 [0.06, 0.21] 0 42 [0.22, 0.47] 0 42 [0.47, 0.47] 0 42 [0.47, 0.47] 0 41 [0	Sensitivity (85% CI)	Specificity (95% C)
CT-Breast cancer Study Awril 1966 Chung 2006 Crowe 1994 Eubank 2001 Fusher 2008 Otilendo 2006 Otilendo 2006 Otilendo 2006 Otilendo 2006 Otilendo 2006 Otilendo 2006 Otilendo 2007 Hagay 1996 Hagay 2007 Kumar 2006 Mohammed S 2020 Otha 2001 Piperkova 2007 Rothar 2001 Wohammed S 2020 Otha 2001 Ternier 2006 Vander 2002 Veronesi 2007 Veronesi 2007 Veronesi 2007 Wohat 2004 Wohat 2004 Wohat 2004 Wohat 2004 Bender 1998 I Bender 1997 I Bender 1998 I Harada 2009 III	13 100 TPP 15 25 25 9 8 1200 6 42 22 28 1200 6 42 22 6 42 22 6 42 22 6 42 22 6 8 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	FF 17 160 0 22 0 131 0 1 2 2 3 2 0 1 3 1 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	FR 00012000000000000000000000000000000000	4 TN 5 Constant of the second	9 95 (0.99, 0.98] Sensitivity (19% C 1,00 [0.78, 1,01 1,00 [0.46, 1,00 1,00 [0.46, 1,00 1,00 [0.46, 1,00 1,00 [0.47, 1,00 1,00 [0.4	0 91 [0.71, 0.99] 0 51 [0.71, 0.99] 0 50 [0.00, 0.41 0 0.42 [0.03, 0.64] 0 0.42 [0.03, 0.14] 0 0.42 [0.04, 0.07] 0 0.42 [0.04, 0.07] 0 0.22 [0.41, 0.67] 0 0.22 [0.41, 0.67] 0 0.22 [0.41, 0.67] 0 0.22 [0.12, 0.31] 0 0.99 [0.52, 1.03] 0 0.41 [0.03, 0.72] 0 0.42 [0.52, 0.14] 0 0.42 [0.52, 0.14] 0 0.42 [0.52, 0.14] 0 0.45 [0.09, 0.24] 0 0.47 [0.55, 0.98] 0 0.37 [0.65, 0.98] 0 0.37 [0.65, 0.98] 0 0.39 [0.62, 0.09] 0 0.39 [0.02, 1.01] 0 0.31 [0.10, 0.91] 0 0.31 [0.10, 0.91] 0 0.31 [0.10, 0.91] 0 0.30 [0.10, 0.	Sensitivity (85% CI)	Specificity (95% C)
CT-Breast cancer Study Awril 1966 Chung 2006 Crowe 1994 Eubank 2001 Fusher 2008 Otilendo 2006 Otilendo 2006 Otilendo 2006 Otilendo 2006 Otilendo 2006 Otilendo 2006 Otilendo 2007 Hagay 1996 Hagay 2007 Kumar 2006 Mohammed S 2020 Otha 2001 Piperkova 2007 Rothar 2001 Wohammed S 2020 Otha 2001 Ternier 2006 Vander 2002 Veronesi 2007 Veronesi 2007 Veronesi 2007 Wohat 2004 Wohat 2004 Wohat 2004 Bender 1998 I Bender 1997 I Bender 1998 I Harada 2009 I Harada 2009 III	13 100 TPP 15 25 25 9 8 1200 6 42 22 28 1200 6 42 22 6 42 22 6 42 22 6 42 22 6 8 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	FF 17 160 0 22 0 131 0 1 2 2 3 2 0 1 3 1 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	FR 00012000000000000000000000000000000000	4 TN 5 Constant of the second	9 95 (0.99, 0.98] Sensitivity (19% C 1,00 [0.78, 1,01 1,00 [0.46, 1,00 1,00 [0.46, 1,00 1,00 [0.46, 1,00 1,00 [0.47, 1,00 1,00 [0.4	0 91 [0.71, 0.99] 0 51 [0.71, 0.99] 0 50 [0.00, 0.41 0 0.42 [0.03, 0.64] 0 0.42 [0.03, 0.14] 0 0.42 [0.04, 0.07] 0 0.42 [0.04, 0.07] 0 0.22 [0.41, 0.67] 0 0.22 [0.41, 0.67] 0 0.22 [0.41, 0.67] 0 0.22 [0.12, 0.31] 0 0.99 [0.52, 1.03] 0 0.41 [0.03, 0.72] 0 0.42 [0.52, 0.14] 0 0.42 [0.52, 0.14] 0 0.42 [0.52, 0.14] 0 0.45 [0.09, 0.24] 0 0.47 [0.55, 0.98] 0 0.37 [0.65, 0.98] 0 0.37 [0.65, 0.98] 0 0.39 [0.62, 0.09] 0 0.39 [0.02, 1.01] 0 0.31 [0.10, 0.91] 0 0.31 [0.10, 0.91] 0 0.31 [0.10, 0.91] 0 0.30 [0.10, 0.	Sensitivity (85% CI)	Specificity (95% C)
CT-Breast cancer Study Awil 1966 Chung 2006 Chung 2006 Chung 2006 Chung 2006 Chung 2006 Chung 2006 Chung 2007 Hagay 1996 Haug 2007 Hagay 1996 Hagay 2007 Hagay	13 100 TPP 15 2552 9 8 8 14 28 12 28 14 28 14 28 14 28 12 20 20 20 20 20 20 20 20 20 20 20 20 20	FF 17 100 32 61 11 22 63 1 11 22 63 1 11 22 63 1 11 22 63 1 11 22 63 1 11 22 63 1 11 22 63 1 11 22 63 1 11 11 12 63 1 11 11 12 63 1 11 11 11 11 11 11 11 11 11 11 11 11	F 0 0 0 2 2 2 3 1 3 3 3 3 5 5 7 8 9 0 3 5 1 T 1 5 3 1 8 1 8 2 6	220 4 TN	0.95 (0.99, 0.98] Sensitivity (19% C 1,00 (17.78, 1, 0 1,00 (10.84, 1, 0 0,00 (10.94	0 91 [0.71, 0.99] 0 59cc/ficity (19% C0) 0 20 0.08, 0.45 0 49 [0.71, 0.89] 0 49 [0.73, 0.86] 0 49 [0.73, 0.86] 0 49 [0.73, 0.86] 0 49 [0.73, 0.86] 0 50 [0.64, 0.87] 0 51 [0.64, 0.87] 0 51 [0.74, 0.87] 0 52 [0.74, 0.75] 0 52 [0.74	Sensitivity (85% CI)	Specificity (95% C)
CT-Breast cancer Study Awril 1996 Chung 2006 Chung 2006 Chung 2006 Chung 2006 Chung 2006 Chung 2006 Chung 200 Guiler 2002 Guiler 2002 Guiler 2002 Mohammed 5 2004 Mohammed 5 2004 Mohammed 5 2007 Rodan 2006 Schurmeister 2001 Yander 2002 Variona 200 Variona 200 Schurmeister 2001 Yander 2002 Variona 2008 Yander 2008 Yander 2008 Yang 2008 Yander 2008 Yang 200	13 100 TPP 15 2552 9 8 8 14 28 12 28 14 28 14 28 14 28 12 20 20 20 20 20 20 20 20 20 20 20 20 20	FF 17 100 32 61 11 22 63 1 11 22 63 1 11 22 63 1 11 22 63 1 11 22 63 1 11 22 63 1 11 22 63 1 11 22 63 1 11 11 12 63 1 11 11 12 63 1 11 11 11 11 11 11 11 11 11 11 11 11	FR ( ( ( ) ) ) ) ) ) ) ) ) ) ) ) ) ) ) )	220 4 TN	0.95 (0.99, 0.98] Sensitivity (19% C 1,00 (17.78, 1, 0 1,00 (10.84, 1, 0 0,00 (10.94	0 91 [0.71, 0.99] 0 59cc/ficity (19% C) 0 2.21 (0.96, 0.62) 0 4 [0.01, 0.66] 0 4 [0.01, 0.01] 0 4 [0.00, 0.21] 0 4 [0.22, 0.21] 0 4 [0.22, 0.21] 0 4 [0.22, 0.21] 0 4 [0.22, 0.23] 0 4 [0.02, 0.24] 0 4 [0.02, 0.24] 0 4 [0.00, 0.24] 0 4	Sensitivity (85% CI)	Specificity (95% C)
CT-Breast cancer Study Awril 1986 Chung 2006 Chung 2007 Hagay 1996 Hagay 1996 Hagay 1996 Hagay 1996 Hagay 2004 Mohammed 2020 Mohammed 2020 Mohammed 2020 Mohammed 2020 Hagay 2004 Hagay 200	13 100 TPP 15 2552 9 8 8 14 28 12 28 14 28 14 28 14 28 12 20 20 20 20 20 20 20 20 20 20 20 20 20	FF 17 100 32 61 11 22 63 1 11 22 63 1 11 22 63 1 11 22 63 1 11 22 63 1 11 22 63 1 11 22 63 1 11 22 63 1 11 11 12 63 1 11 11 12 63 1 11 11 11 11 11 11 11 11 11 11 11 11	FR 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	220 1 TN 5 1	0 95 (0.99, 0.98] Sensitivity (19% C 1,00 [7.8, 1, 0] 1,00 [7.1, 0] 0,20 [7.4, 0] 0,20 [7.4	0 91 [0.71, 0.99] 0 59c (file)ty (19% C) 0 20 20 0.90, 6.45 0 40 [0.31, 0.68] 0 .049 [0.31, 0.68] 0 .049 [0.31, 0.68] 0 .059 [0.00, 0.11] 0 .058 [0.52, 0.57] 0 .059 [0.00, 0.11] 0 .058 [0.52, 0.57] 0 .059 [0.51, 0.01] 0 .059 [0.51, 0.01] 0 .059 [0.52, 0.57] 0 .059 [0.55, 0.99] 0 .07 [0.64, 1.09] 0 .07 [0.64, 0.07] 0 .03 [0.61, 1.09] 0 .03 [0.61, 1.09] 0 .03 [0.61, 1.09] 0 .03 [0.61, 0.03] 0 .03 [0.63, 1.00] 0 .03 [0.64, 0.03] 0 .03 [0.04, 0.03] 0 .04 [0.05, 0.03] 0 .05 [0.05, 0.03] 0	Sensitivity (85% CI)	Specificity (95% C)
CT-Breast cancer Study Awril 1996 Chung 2006 Chung 2006 Chung 2006 Chung 2006 Chung 2006 Chung 2006 Chung 2007 Hagay 1996 Haug 2007 Hagay 1996 Haug 2007 Mohammed 5 2020 Moham	13 100 TPP 15 2552 9 8 8 14 28 12 28 14 28 14 28 14 28 12 20 20 20 20 20 20 20 20 20 20 20 20 20	FF 17 100 32 61 11 22 63 1 11 22 63 1 11 22 63 1 11 22 63 1 11 22 63 1 11 22 63 1 11 22 63 1 11 22 63 1 11 11 12 63 1 11 11 12 63 1 11 11 11 11 11 11 11 11 11 11 11 11	FR 0 0 0 0 1 1 0 0 1 1 4 1 1 1 1 4 1 1 1 1	4 TN 4 TN 5 C 2 C 2 4 TN 5 C 2 C 2 5	0 95 (0.99, 0.98] Sensitivity (19% C 1,00 (17.78, 1, 0 1,00 (10.46, 1) 1,00 (10.46, 1) 1,00 (10.46, 1) 1,00 (10.46, 1) 1,00 (10.47, 1) 1,00 (10.47, 1) 1,00 (10.47, 1) 0,00 (1	0 91 [0,71, 0.99] 0 59cc/ficity (19% C) 0 2,21 (0,01, 0.45) 0 4,21 (0,01, 0.45) 0 4,40 (0,01, 0.66) 0 4,40 (0,01, 0.66) 0 4,40 (0,01, 0.67) 0 4,40 (0,00, 0.21) 0 4,40 (0,00, 0.24) 0 4,10 (0	Sensitivity (85% CI)	Specificity (95% C)
CT-Breast cancer Study Awril 1996 Chung 2006 Chung 200 Guiter 2002 Guiter 2002 Guiter 2002 Mohammed 5 2020 M	13 100 TPP 15 2552 9 8 8 14 28 12 28 14 28 14 28 14 28 12 20 20 20 20 20 20 20 20 20 20 20 20 20	FF 17 100 32 61 11 22 63 1 11 22 63 1 11 22 63 1 11 22 63 1 11 22 63 1 11 22 63 1 11 22 63 1 11 22 63 1 11 11 12 63 1 11 11 12 63 1 11 11 11 11 11 11 11 11 11 11 11 11	FR ( ( ( ) ) ) ) ) ) ) ) ) ) ) ) ) ) ) )	4 TN 4 TN 5 C 2 C 2 4 TN 5 C 2 C 2 5	0 95 (0.99, 0.98] Sensitivity (19% C 1,00 (17.7, 1,0 1,00 (10.46, 1) 1,00 (10.46, 1) 1,00 (10.46, 1) 1,00 (10.46, 1) 1,00 (10.47, 1) 1,00 (10.47, 1) 1,00 (10.47, 1) 1,00 (10.47, 1) 0,00 (10.	0 91 [0,71, 0.99] 0 59cc/ficity (19% C) 0 2,21 (0,01, 0.45) 0 4,21 (0,01, 0.45) 0 4,40 (0,01, 0.66) 0 4,40 (0,01, 0.66) 0 4,40 (0,01, 0.67) 0 4,40 (0,00, 0.21) 0 4,40 (0,00, 0.24) 0 4,10 (0	Sensitivity (85% CI)	Specificity (95% C)
CT-Breast cancer Study Awril 1966 Chung 2006 Crowe 1994 Eubank 2001 Fusher 2008 Otimendo 2006 Otimendo 2006 Otimendo 2006 Otimendo 2006 Otimendo 2006 Otimendo 2006 Otimendo 2007 Hagay 1996 Hagay 2007 Hagay 1996 Hagay 2007 Radan 2006 Schirmmed S 2020 Otha 2001 Piperkowa 2007 Radan 2006 Schirmmed S 2020 Otha 2001 Schirmmed S 2020 Otha 2001 Radan 2006 Schirmmed S 2020 Wonha 2001 Schirmed S 2020 Otha 2001 Rest Schirmed S 2020 Otha 2001 Rest Schirmed S 2020 Otha 2001 Schirmed S 2020 Otha 2001 Schirmed S 2020 MiRt-Breast cancer Hittendo S 200 Schirmed S 2020 Otha 2001 Schirmed S 2020 MiRt-Breast cancer Hittendo S 200 Schirmed S 2020 Mirtel 2022 Harada 2007 Harada 2007 Harada 2007 Mirtel 2022 Mirtel 202	13 100 TP 155 255 255 255 255 255 255 257 25 25 25 25 25 25 25 25 25 25 25 25 25	FF 17 160 0 22 0 131 0 1 2 2 3 2 0 1 3 1 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	FR ( ( ) ) ) ) ) ) ) ) ) ) ) ) ) ) ) ) )	4 TN 4 TN 5 C 2 C 2 4 TN 5 C 2 C 2 5	0 95 (0.99, 0.98] Sensitivity (19% C 1,00 (17.7, 1, 0 1,00 (10.8), 10.0 1,00 (10.8), 10.0 1,00 (10.8), 10.0 1,00 (10.8), 10.0 0,05 (10.8), 00.0 0,05 (10.8),	0 91 [0,71, 0.99] 0 59cc/ficity (19% C) 0 20,20,00, 0.45 0 40,00,21,00,00, 0.45 0 40,00,21,00,00,00,00,00,00,00,00,00,00,00,00,00	Sensitivity (85% CI)	Specificity (95% C)
CT-Breast cancer Study Awril 1966 Chung 2006 Crowe 1994 Eubank 2001 Fusher 2008 Otimendo 2006 Otimendo 2006 Otimendo 2006 Otimendo 2006 Otimendo 2006 Otimendo 2006 Otimendo 2007 Hagay 1996 Hagay 2007 Hagay 1996 Hagay 2007 Radan 2006 Schirmmed S 2020 Otha 2001 Piperkowa 2007 Radan 2006 Schirmmed S 2020 Otha 2001 Schirmmed S 2020 Otha 2001 Radan 2006 Schirmmed S 2020 Wonha 2001 Schirmed S 2020 Otha 2001 Rest Schirmed S 2020 Otha 2001 Rest Schirmed S 2020 Otha 2001 Schirmed S 2020 Otha 2001 Schirmed S 2020 MiRt-Breast cancer Hittendo S 200 Schirmed S 2020 Otha 2001 Schirmed S 2020 MiRt-Breast cancer Hittendo S 200 Schirmed S 2020 Mirtel 2022 Harada 2007 Harada 2007 Harada 2007 Mirtel 2022 Mirtel 202	13 100 TPP 15 2552 9 8 8 14 28 12 28 14 28 14 28 14 28 12 20 20 20 20 20 20 20 20 20 20 20 20 20	FF 17 100 32 61 11 22 63 1 11 22 63 1 11 22 63 1 11 22 63 1 11 22 63 1 11 22 63 1 11 22 63 1 11 22 63 1 11 11 12 63 1 11 11 12 63 1 11 11 11 11 11 11 11 11 11 11 11 11	FR ( ( ) ) ) ) ) ) ) ) ) ) ) ) ) ) ) ) )	4 TN 5 C C C C C C C C C C C C C C C C C C C	0 95 (0.99, 0.98] Sensitivity (19% C 1,00 (17.7, 1, 0 1,00 (10.8), 10.0 1,00 (10.8), 10.0 1,00 (10.8), 10.0 1,00 (10.8), 10.0 0,05 (10.8), 00.0 0,05 (10.8),	0 91 [0,71, 0.99] 0 59cc/ficity (19% C) 0 20,20,00, 0.45 0 40,00,21,00,00, 0.45 0 40,00,21,00,00,00,00,00,00,00,00,00,00,00,00,00	Sensitivity (85% CI)	Specificity (95% C)
CT-Breast cancer Study Awril 1966 Chung 2006 Crowe 1994 Eubank 2001 Fusher 2008 Coller 2002 Ottendo 2005 Ottendo 2006 Ottendo 2006 Ottendo 2006 Ottendo 2006 Ottendo 2006 Ottendo 2007 Hagg 1996 Hagg 2007 Kumar 2006 Wohammed S 2020 Otha 2001 Piperkova 2007 Rohammed S 2020 Otha 2001 Ternier 2006 Vander 2002 Veronesi 2007 Veronesi 2007 Veronesi 2007 Veronesi 2007 Veronesi 2007 Wohat 2004 Wohat 2004 Wohat 2004 Wohat 2004 Wohat 2004 Bender 1998 I Bender 1998 I Bender 1998 I Harada 2009 Memarse 2006 Michael 2002 Michael 2009 Michael 2007 Michael 2009 Michael 2007 M	13 100 TP 155 255 255 255 255 255 255 257 25 25 25 25 25 25 25 25 25 25 25 25 25	FF 17 100 32 61 11 22 63 1 11 22 63 1 11 22 63 1 11 22 63 1 11 22 63 1 11 22 63 1 11 22 63 1 11 22 63 1 11 11 12 63 1 11 11 12 63 1 11 11 11 11 11 11 11 11 11 11 11 11	FR 0 0 0 2 2 2 3 1 4 2 2 2 8 5 1 5 0 3 5 1 T 1 5 3 1 8 1 8 2 6 7 9 0 5 1 5 0 3 5 1 T 1 5 3 1 8 1 8 2 6 7 9 0 5 5 1 5 0 3 5 1 T 1 5 3 1 8 1 8 2 6 7 9 0 5 5 1 5 0 3 5 1 T 1 5 3 1 8 1 8 2 6 7 9 0 5 5 1 5 0 3 5 1 T 1 5 3 1 8 1 8 2 6 7 9 0 5 5 1 5 0 3 5 1 T 1 5 3 1 8 1 8 2 6 7 9 0 5 5 1 5 0 3 5 1 T 1 5 3 1 8 1 8 2 6 7 9 0 5 5 1 5 0 3 5 1 T 1 5 3 1 8 1 8 2 6 7 9 0 5 5 1 5 0 3 5 1 T 1 5 3 1 8 1 8 2 6 7 9 0 5 5 1 5 0 3 5 1 T 1 5 3 1 8 1 8 2 6 7 9 0 5 5 1 5 0 3 5 1 T 1 5 3 1 8 1 8 2 6 7 9 0 5 5 1 5 0 3 5 1 T 1 5 3 1 8 1 8 2 6 7 9 0 5 5 1 5 0 3 5 1 5	4 TN 5 C C C C C C C C C C C C C C C C C C C	0 95 (0.99, 0.98] Sensitivity (19% C 1,00 (17.7, 1, 0 1,00 (10.8), 10.0 1,00 (10.8), 10.0 1,00 (10.8), 10.0 1,00 (10.8), 10.0 0,05 (10.8), 00.0 0,05 (10.8),	0 91 [0,71, 0.99] 0 59cc/ficity (19% C) 0 2,21 (0,01, 0.45) 0 4,21 (0,01, 0.45) 0 4,40 (0,01, 0.66) 0 4,40 (0,01, 0.66) 0 4,40 (0,01, 0.67) 0 4,40 (0,00, 0.21) 0 4,40 (0,00, 0.24) 0 4,10 (0	Sensitivity (85% CI)	Specificity (95% C)
CT-Breast cancer Study Awril 1966 Chung 2006 Crowe 1994 Eubank 2001 Fusher 2008 Otimendo 2006 Otimendo 2006 Otimendo 2006 Otimendo 2006 Otimendo 2006 Otimendo 2006 Otimendo 2007 Hagay 1996 Hagay 2007 Hagay 1996 Hagay 2007 Radan 2006 Schirmmed S 2020 Otha 2001 Piperkowa 2007 Radan 2006 Schirmmed S 2020 Otha 2001 Schirmmed S 2020 Otha 2001 Radan 2006 Schirmmed S 2020 Wonha 2001 Schirmed S 2020 Otha 2001 Rest Schirmed S 2020 Otha 2001 Rest Schirmed S 2020 Otha 2001 Schirmed S 2020 Otha 2001 Schirmed S 2020 MiRt-Breast cancer Hittendo S 200 Schirmed S 2020 Otha 2001 Schirmed S 2020 MiRt-Breast cancer Hittendo S 200 Schirmed S 2020 Mirtel 2022 Harada 2007 Harada 2007 Harada 2007 Mirtel 2022 Mirtel 202	13 100 TP 155 255 255 255 255 255 255 257 25 25 25 25 25 25 25 25 25 25 25 25 25	FF 17 100 32 61 11 22 63 1 11 22 63 1 11 22 63 1 11 22 63 1 11 22 63 1 11 22 63 1 11 22 63 1 11 22 63 1 11 11 12 63 1 11 11 12 63 1 11 11 11 11 11 11 11 11 11 11 11 11	FR ( ( ) ) ) ) ) ) ) ) ) ) ) ) ) ) ) ) )	4 TN 5 C C C C C C C C C C C C C C C C C C C	0 95 (0.99, 0.98] Sensitivity (19% C 1,00 (17.7, 1, 0 1,00 (10.8), 10.0 1,00 (10.8), 10.0 1,00 (10.8), 10.0 1,00 (10.8), 10.0 0,05 (10.8), 00.0 0,05 (10.8),	0 91 [0,71, 0.99] 0 59cc/ficity (19% C) 0 20,20,00, 0.45 0 40,00,21,00,00, 0.45 0 40,00,21,00,00,00,00,00,00,00,00,00,00,00,00,00	Sensitivity (85% CI)	Specificity (95% C)

Cumulative Sensitivity and specificity for Breast cancer



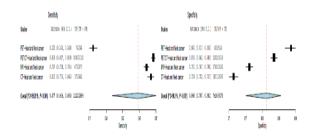
The Diagnostic test accuracy is represented by the summary statistics and summary line from four sets of basic data, namely true positive (TP), false positive (FP), false negative (FN), and true negative (TN). Representative summary statistics are the sensitivity, specificity. Forest plot of sensitivity and specificity of detecting cervical cancer with PET with the 95 % CI for each population of the included studies. A total of 99 studies were included in this meta-analysis. Among them, 32 studies had reported the performance of PET, 25 studies had reported the performance of PET/CT, 16 studies had reported the performance of MRI and 26 studies had reported the performance of CT, respectively. After pooling all studies, of CT, MRI, PET and PET/CT Forest plot of sensitivity and specificity of CT 0.87 (0.85, 0.89), 0.35 (0.33,0.38) MRI 0.97 (0.94, 0.98), 0.88(0.84, 0.91) PET 0.89 (0.86,0.90) 0.91(0.89, 0.93) and PET/CT 0.86(0.83, 0.88) 0.91 (0.89, 0.93) in detecting local recurrences, lesion basis, distant metastases, and breast lesions in Breast cancer with 95 % CI for each population of the included studies.

#### Forest plot for Head and Neck cancer

The Diagnostic test accuracy is represented by the summary statistics and summary line from four sets of basic data, namely true positive (TP), false positive (FP), false negative (FN), and true negative (TN). Representative summary statistics are the sensitivity, specificity. Forest plot of sensitivity and specificity of detecting cervical cancer with PET with the 95% CI for each population of the included studies. A total of 81 studies were included in this meta-analysis. Among them 4 studies had reported the performance of PET, 41 studies had reported the performance of PET/CT, 20 studies had reported the performance of MRI and 16 studies had reported the performance of CT respectively. After pooling all studies, of CT, MRI, PET and PET/CT Forest plot of sensitivity and specificity of CT 0.81 (0.77,0.85), 0.72 (0.70, 0.74) MRI 0.77 (0.74,0.79), 0.78 (0.77,0.79) PET 0.20 (0.16, 0.25) 0.94 (0.92, 0.96) and PET/CT 0.84 (0.82,0.86) 0.88 (0.86,0.89) in detecting Lymph node metastasis, detection of recurrence in patients and detecting neck levels I.

PET/CT-Head and n	ieck	cano	er					
Study	тр	FP	FN	TN	Sensitivity (95% CI)	Specificity (95% CI)	Sensitivity (95% CI)	Specificity (95% CI)
Abgral 2009	30		0	52	1.00 [0.88, 1.00]	0.85 [0.74, 0.93]	-	
Babin 2008	3	2	0	12	1.00 [0.29, 1.00]	0.86 [0.57, 0.98]		
cetin 2013	16	6	3	11	0.84 [0.60, 0.97]	0.65 [0.38, 0.86]		_
Chan 2006 Chauhan 2012	21	2	1	10 29	0.95 [0.77, 1.00] 0.71 [0.48, 0.89]	0.83 [0.52, 0.98]		
Fakhry 2007	15	6	1	29	0.94 [0.73, 1.00]	0.97 [0.83, 1.00] 0.57 [0.29, 0.82]		
Ghanooni 2011	14	17	÷	87	0.93 [0.68, 1.00]	0.84 [0.75, 0.90]	_	
Gordin 2006	23	1	2	25	0.92 [0.74, 0.99]	0.96 [0.80, 1.00]		
Gordin 2007	46	3	6	52	0.88 [0.77, 0.96]	0.95 [0.85, 0.99]		
Goshen 2005	11	2	0	4	1.00 [0.72, 1.00]	0.67 [0.22, 0.96]		
Ho 2013	18	7	0	227	1.00 [0.81, 1.00]	0.97 [0.94, 0.99]		•
Jeong 2007	25	6	1	15	0.96 [0.80, 1.00]	0.71 [0.48, 0.89]		
Kao 1998	11	1	0	24	1.00 [0.72, 1.00]	0.96 [0.80, 1.00]		
Kim 2007	39	23	1	286	0.97 [0.87, 1.00]	0.93 [0.89, 0.95]		
Kim 2011 Kim 2013	74 25	13	15 2	126 87	0.83 [0.74, 0.90]	0.91 [0.85, 0.95]		
Krabbe 2008	25	1	4	29	0.93 [0.76, 0.99] 0.50 [0.16, 0.84]	0.95 [0.88, 0.98] 0.97 [0.83, 1.00]		
Krabbe 2009	16	26	ō	66	1.00 [0.79, 1.00]	0.72 [0.61, 0.81]	_	-
Kubota 2004	7	3	õ	10	1.00 [0.59, 1.00]	0.77 [0.46, 0.95]		
Lee 2007	15	5	1	74	0.94 [0.70, 1.00]	0.94 [0.86, 0.98]		-
Lee 2015	15	1	5	18	0.75 [0.51, 0.91]	0.95 [0.74, 1.00]		
Li 2001	20	3	2	18	0.91 [0.71, 0.99]	0.86 [0.64, 0.97]		
Nahmias 2007	37	10	5	22	0.88 [0.74, 0.96]	0.69 [0.50, 0.84]		
Nakamura 2013	119	6	9	136	0.93 [0.87, 0.97]	0.96 [0.91, 0.98]		
Ng 2010	48	12	7	112	0.87 [0.76, 0.95]	0.90 [0.84, 0.95]	-	
Paidpally 2013	22	19	4	182	0.85 [0.65, 0.96]	0.91 [0.86, 0.94]		
Robin 2015 Rob 2007	22	12	1	81 26	0.96 [0.78, 1.00] 0.91 [0.76, 0.98]	0.87 [0.79, 0.93]		
Roh 2007 Roh 2014	27	10	11	20 43	0.71 [0.54, 0.85]	0.87 [0.69, 0.96] 0.81 [0.68, 0.91]		-
Salaun 2007	- 27	1	0	21	1.00 [0.63, 1.00]	0.95 [0.77, 1.00]		
Schroeder 2008	ŏ	ō	5	8	0.00 [0.00, 0.52]	1.00 [0.63, 1.00]		
Seitz 2009	39	0	2	0	0.95 [0.83, 0.99]	Not estimable		
Sohn 2016	16	2	9	22	0.64 [0.43, 0.82]	0.92 [0.73, 0.99]		
Stoeckli 2002	1	1	3	7	0.25 [0.01, 0.81]	0.88 [0.47, 1.00]		
Stokkel 1999	17	- 7	0	24	1.00 [0.80, 1.00]	0.77 [0.59, 0.90]	_	
Tsai 2002	14	1	0	13	1.00 [0.77, 1.00]	0.93 [0.66, 1.00]		
Wierzbicka 2011	31 69	8 31	5 3	39 78	0.86 [0.71, 0.95]	0.83 [0.69, 0.92]		
Wong 2002 Yamaga 2018	10	31	21	135	0.96 [0.88, 0.99] 0.32 [0.17, 0.51]	0.72 [0.62, 0.80] 0.78 [0.71, 0.84]		
Yen 2003	21	39	0	43	1.00 [0.84, 1.00]	0.93 [0.82, 0.99]	_	-
Zundel 2011	4	17	ő	31	1.00 [0.40, 1.00]	0.65 [0.49, 0.78]		
PET-Head and necl	k car	cer				,	0 0.2 0.4 0.6 0.8 1	0 0.2 0.4 0.6 0.8 1
Study		FP	FN	TN	Sensitivity (95% CI)	Specificity (95% CI)	Sensitivity (95% CI)	Specificity (95% CI)
Chang 2005	14	8	73	0	0.16 [0.09, 0.26]	0.00 [0.00, 0.37]	- <b>-</b> -	
Liu 2006	21		170	ğ	0.11 [0.07, 0.16]	0.82 [0.48, 0.98]	•	
Shu 2006	18	8	17	91	0.51 [0.34, 0.69]	0.92 [0.85, 0.96]		-
Shu-hang 2006	21	13	30	393	0.41 [0.28, 0.56]	0.97 [0.95, 0.98]		
CT-Head and neck		er						
Study	TP	FP	FN	TN	Sensitivity (95% CI)	Specificity (95% CI)	Sensitivity (95% CI)	Specificity (95% CI)
Adams 1998	96	175	21	992	0.82 [0.74, 0.89]	0.85 [0.83, 0.87]	-	
Akoglu 2005	21	2	6	12	0.78 [0.58, 0.91]	0.86 [0.57, 0.98]		
Braams 1995	5	10	4	13	0.56 [0.21, 0.86]	0.57 [0.34, 0.77]		
Curtin 1998	57	415	1	62	0.98 [0.91, 1.00]	0.13 [0.10, 0.16]	-	•
Dammann 2005	32	17	8	236	0.80 [0.64, 0.91]	0.93 [0.89, 0.96]		
Eida 2003 Fan 2006	3 23	5 11	3 4	162	0.50 [0.12, 0.88] 0.85 [0.66, 0.96]	0.97 [0.93, 0.99] 0.27 [0.08, 0.55]		
Hafidh 2006	23	10	12	2	0.40 [0.19, 0.64]	0.17 [0.02, 0.48]	_	
Kau 1999	6	17	12	17	0.86 [0.42, 1.00]	0.50 [0.32, 0.68]		
Ke 2006	10	3	3	4	0.77 [0.46, 0.95]	0.57 [0.18, 0.90]		
Lu 2007	11	1	3	6	0.79 [0.49, 0.95]	0.86 [0.42, 1.00]		
Mcguirt 1995	18	3	1	19	0.95 [0.74, 1.00]	0.86 [0.65, 0.97]		
Paulus 1998	8	1	0	4	1.00 [0.63, 1.00]	0.80 [0.28, 0.99]		
Peters 2012	10	56	0	1	1.00 [0.69, 1.00]	0.02 [0.00, 0.09]		
Wu 2010	10	1	2	11	0.83 [0.52, 0.98]	0.92 [0.62, 1.00]		
Yoon 2009	57	2	17	326	0.77 [0.66, 0.86]	0.99 [0.98, 1.00]	0 0.2 0.4 0.6 0.8 1	0 0.2 0.4 0.6 0.8 1
MRI-Head and neck	k car	cer						
Study		тр	FP	FN	TN Sensitivity (95%	CI) Specificity (95% CI)	Sensitivity (95% CI)	Specificity (95% CI)
Adams 1998		94	250	23	917 0.80 [0.72, 0			
Akoglu 2005		16	1	11	13 0.59 [0.39, 0	.78] 0.93 [0.66, 1.00]		
Braams 1995		5	6	10	134 0.33 [0.12, 0	.62] 0.96 [0.91, 0.98]		
Curtin 1998		53	382	5	95 0.91 [0.81, 0	.97] 0.20 [0.16, 0.24]	-	•
Dammann 2005		37	14	3	239 0.93 [0.80, 0	.98] 0.94 [0.91, 0.97]		
Ding 2005		132	27	34	255 0.80 [0.73, 0	.85] 0.90 [0.86, 0.94]		•
Gu 2000		8	3	1	50 0.89 [0.52, 1	.00] 0.94 [0.84, 0.99]		-
Hafidh 2006		11	10	9	2 0.55 [0.32, 0	.77] 0.17 [0.02, 0.48]		-
Hao 2000		30 2	2	11	38 0.73 [0.57, 0	.86] 0.95 [0.83, 0.99]		
Kau 1999 Laubenbacher 199		2 13	17 7	1	15 0.67 [0.09, 0 9 0.72 [0.47, 0	.99] 0.47 [0.29, 0.65] .90] 0.56 [0.30, 0.80]		
Laubenbacher 199 Nakamoto 2009		13	2	4	9 0.72 [0.47, 0 30 0.80 [0.56, 0	.90] 0.56 [0.30, 0.80] .94] 0.94 [0.79, 0.99]		_
Olmos 1999		22	11	2	27 0.92 [0.73, 0	.94] 0.94 [0.79, 0.99] .99] 0.71 [0.54, 0.85]		
				ő	4 1.00 [0.83, 1		-	
Seitz 2009		20	1					
		20 87	1 13	42		75] 0.97 [0.95. 0.98]		
Seitz 2009	1				415 0.67 [0.59, 0	.75] 0.97 [0.95, 0.98] .76] 1.00 [0.97, 1.00]	-	
Seitz 2009 VandenBrekel 1991 Wang 1999 Wide 1999	1	87 23 18	13 0 11	42 15 9	415 0.67 [0.59, 0 130 0.61 [0.43, 0 34 0.67 [0.46, 0	.76] 1.00 [0.97, 1.00] .83] 0.76 [0.60, 0.87]	÷	<b>`</b>
Seitz 2009 VandenBrekel 1991 Wang 1999 Wide 1999 Wilson 1994	1	87 23 18 17	13 0 11 16	42 15 9 0	415 0.67 [0.59, 0 130 0.61 [0.43, 0 34 0.67 [0.46, 0 18 1.00 [0.80, 1	.76] 1.00 [0.97, 1.00] .83] 0.76 [0.60, 0.87] .00] 0.53 [0.35, 0.70]	÷	
Seitz 2009 VandenBrekel 1991 Wang 1999 Wilde 1999 Wilson 1994 Yoon 2009	1	87 23 18 17 57	13 0 11 16 2	42 15 9 0 17	415 0.67 [0.59, 0 130 0.61 [0.43, 0 34 0.67 [0.46, 0 18 1.00 [0.80, 1 326 0.77 [0.66 0	.76]         1.00 [0.97, 1.00]           .83]         0.76 [0.60, 0.87]           .00]         0.53 [0.35, 0.70]           .86]         0.99 [0.98, 1.00]	÷	
Seitz 2009 VandenBrekel 1991 Wang 1999 Wide 1999 Wilson 1994	I	87 23 18 17	13 0 11 16	42 15 9 0	415 0.67 [0.59, 0 130 0.61 [0.43, 0 34 0.67 [0.46, 0 18 1.00 [0.80, 1	.76]         1.00 [0.97, 1.00]           .83]         0.76 [0.60, 0.87]           .00]         0.53 [0.35, 0.70]           .86]         0.99 [0.98, 1.00]		

Cumulative Sensitivity and specificity for Head and Neck cancer



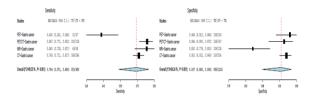
Forest plot for Gastric cancer

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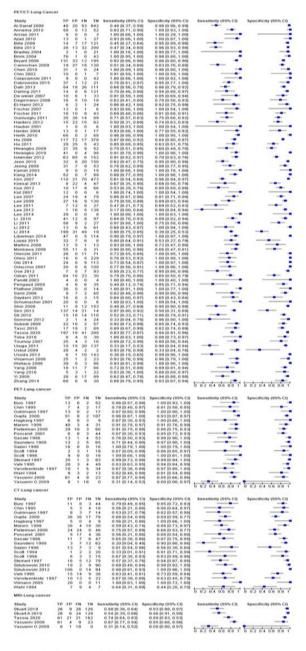
PET/CT-Gastric cancer

Study	TP	FP	FN	TN	Sensitivity (95% Cl	) Specificity (95% CI)	Sensitivity (95% CI)	Specificity (95% CI)
Dirisamer 2009	30	1	1	30	0.97 [0.83, 1.00	0.97 [0.83, 1.00]		
Kawanaka 2016	29	0	13	44	0.69 [0.53, 0.82	1.00 [0.92, 1.00]		
Satoh2011	25	5	1	76	0.96 [0.80, 1.00	0.94 [0.86, 0.98]		-
Soussan 2012	16	3	3	8	0.84 [0.60, 0.97	0.73 [0.39, 0.94]		
PET-Gastric car	cer							
Study T	P FP	FN	TN	Sen	sitivity (95% CI) Sp	pecificity (95% CI)	Sensitivity (95% CI)	Specificity (95% CI)
Chen 2005	3 1	7	57	(	0.30 [0.07, 0.65]	0.98 [0.91, 1.00]		
Kim 2011	1 2	1	5	(	0.50 [0.01, 0.99]	0.71 [0.29, 0.96]		
Lim 2006	6 1	11	94	(	0.35 [0.14, 0.62]	0.99 [0.94, 1.00]		
Potter 2002	5 2	3	3	(	0.63 [0.24, 0.91]	0.60 [0.15, 0.95]	0 0 2 0 4 0 6 0 8 1	0 0.2 0.4 0.6 0.8 1
CT-Gastric cano	er						0 0.2 0.1 0.0 0.0 1	0 0.2 0.7 0.0 0.0 1
Study	TP	FP	FN	TN	Sensitivity (95% C	CI) Specificity (95% CI)	Sensitivity (95% CI)	Specificity (95% CI)
Duhr 2011	31		1	4	0.97 [0.84, 1.0	0.80 [0.28, 0.99]		
Giganti 2016	18	3	2	32	0.90 [0.68, 0.9	9] 0.91 [0.77, 0.98]		
Karakoyun 2014	39	4	1	11	0.97 [0.87, 1.0	0.73 [0.45, 0.92]		
Kawanaka 2016	30	0	12	44	0.71 [0.55, 0.8	[4] 1.00 [0.92, 1.00]		-
Kim 2011	44	1	15	11	0.75 [0.62, 0.8	5] 0.92 [0.62, 1.00]		
Kim SJ 2009	27	17	26	428	0.51 [0.37, 0.6	5] 0.96 [0.94, 0.98]		
MRI-Gastric can	cer						0 0.2 0.4 0.0 0.0 1	0 0.2 0.4 0.0 0.0 1
Study	TP	FP	FN	TN S	Sensitivity (95% CI)	Specificity (95% CI)	Sensitivity (95% CI)	Specificity (95% CI)
Fuji 2008	13	1	2	10	0.87 [0.60, 0.98]	0.91 [0.59, 1.00]		
Satoh2011	20	16	4	90	0.83 [0.63, 0.95]	0.85 [0.77, 0.91]		-
Soussan 2012	16	2	3	9	0.84 [0.60, 0.97]	0.82 [0.48, 0.98]	0 0.2 0.4 0.6 0.8 1	0 0.2 0.4 0.6 0.8 1

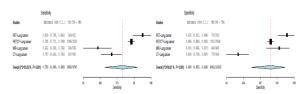
Cumulative Sensitivity and specificity for Gastric cancer



The Diagnostic test accuracy is represented by the summary statistics and summary line from four sets of basic data, namely true positive (TP), false positive (FP), false negative (FN), and true negative (TN). Representative summary statistics are the sensitivity, specificity. Forest plot of sensitivity and specificity of detecting cervical cancer with PET with the 95 % CI for each population of the included studies. A total of 17 studies were included in this meta-analysis. Among them 4 studies had reported the performance of PET, 4 studies had reported the performance of PET/CT, 3 studies had reported the performance of MRI and 7 studies had reported the performance of CT, respectively. After pooling all studies, of CT, MRI, PET and PET/CT Forest plot of sensitivity and specificity of CT 0.77(0.71,0.82), 0.95(0.93,0.97) 0.84(0.73,0.93), 0.850.78,0.91() MRI PET 0.41(0.25,0.58) 0.96 (0.92,0.99) and PET/CT 0.85 (0.77,0.91) 0.95 (0.90, 0.98) in detecting recurrent gastric cancer and Peritoneal metastases in Gastric cancer with 95 % CI for each population of the included studies.



Cumulative Sensitivity and specificity for Lung cancer



The Diagnostic test accuracy is represented by the summary statistics and summary line from four sets of basic data, namely true positive (TP), false positive (FP), false negative (FN), and true negative (TN). Representative summary statistics are the sensitivity,

Forest plot for Lung cancer

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specificity. Forest plot of sensitivity and specificity of detecting cervical cancer with PET with the 95 % CI for each population of the included studies. A total of 125 studies were included in this meta-analysis. Among them, 18 studies had reported the performance of PET, 82 studies had reported the performance of PET/CT, 5 studies had reported the performance of MRI and 20 studies had reported the performance of CT, respectively. After pooling all studies of CT, MRI, PET and PET/CT Forest plot of sensitivity and specificity of CT 0.71 (0.66, 0.75), 0.82 (0.80,0.85) MRI 0.65(0.59,0.71), 0.91(0.89,0.94) PET 0.83 (0.79, 0.86) 0.93 (0.91 0.95) and PET/CT 0.78(0.77, 0.80) 0.90(0.89, 0.90) in detecting mediastinal lymph node metastases, detecting stage IIIb, local T and N stage, M-stage lung cancer, solitary pulmonary nodule in lung cancer with 95 % CI for each population of the included studies.

# V. DISCUSSION

evaluates This meta-analysis the diagnostic performance of PET, PET/CT, CT, and MRI on five different cancers cervical, breast, head and neck, gastric and lung cancer in detecting distant metastasis different staging and levels of cancer and local regional recurrence, lymph node metastases and peritoneal metastases. Diagnosis and detection of different cancers by PET, PET/CT, CT and MRI varies based on the region, recurrence and different stages of cancer [5-17]. We also found one HTA on cervical cancer and one HTA on lung cancer. The forest plot was plotted for all five different cancers with a total of 345 studies and their sensitivity and specificity was calculated. The pooled data for the cervical cancer with a sensitivity and specificity of CT 0.62 (0.57, 0.67), 0.92 (0.57, 0.67), MRI 0.52 (0.49,0.55), 0.96 (0.95, 0.96) PET 0.90 (0.86,0.93) 0.93(0.91, 0.94) and PET/CT 0.65(0.62, 0.68) 0.97(0.97,0.98) in detecting LN metastases cervical cancer Tumor staging like IA, IB II A, II B, III A and IV A in cervical cancer. The pooled data for the Breast cancer with a sensitivity and specificity of CT 0.87 (0.85, 0.89), 0.35 (0.33,0.38) MRI 0.97 (0.94, 0.98), 0.88(0.84, 0.91) PET 0.89 (0.86,0.90) 0.91(0.89, 0.93) and PET/CT 0.86(0.83, 0.88) 91(0.89, 0.93) in detecting local recurrences, lesion basis, distant metastases, and breast lesions in breast cancer. The pooled data for the head and neck cancer with a sensitivity and specificity of CT 0.81(0.77, 0.85),0.72(0.70, 0.74)MRI

0.77(0.74,0.79), 0.78(0.77,0.79) PET 0.20 (0.16, 0.25) 0.94(0.92, 0.96) and PET/CT 0.84(0.82,0.86) 0.88(0.86,0.89) in detecting lymph node metastasis, detection of recurrence in patients and detecting neck levels I, II, and III with head and neck cancer. The pooled data for the gastric cancer with a sensitivity and specificity of CT 0.77 (0.71,0.82), 0.95(0.93,0.97) 0.84(0.73, 0.93),0.85 (0.78, 0.91),MRI PET 0.41(0.25,0.58) 0.96(0.92,0.99) and PET/CT 0.85 (0.77,0.91) 0.95 (0.90, 0.98) in detecting recurrent gastric cancer and peritoneal metastases in gastric cancer. The pooled data for the lung cancer with a sensitivity and specificity of CT 0.71 (0.66, 0.75), 0.82 (0.80, 0.85) MRI 0.65(0.59,0.71), 0.91(0.89,0.94) PET 0.83 (0.79, 0.86) 0.93 (0.91 0.95) and PET/CT 0.78(0.77, 0.80) 0.90(0.89, 0.90) in detecting mediastinal lymph node Metastases, detecting stage III b, local T and N stage, M-stage lung cancer, solitary pulmonary nodule in lung cancer.

# VII. CONCLUSION

The Diagnostic test studies generally focus on accuracy, often in a population diagnosed with five different cancers. The impact of PET/CT, PET, MRI and CT on patients with Cervical cancer, Breast cancer, Head and Neck cancer, Gastric cancer and Lung cancer had shown better clinical effectiveness which can be used in healthcare system. In addition, several general analyses of the findings were conducted in this review, with the intention of comparing the differences between PET/CT, PET, MRI and CT.

PET/CT: It evaluates organs and tissues at a molecular level, identifies any abnormalities in cells, Detects early onset of cancer before it is visible with other imaging tools.

- It provides everything in a single scan.
- The combined PET/CT has proven to be a major advance for detection of primary tumors, distant metastases, recurrence after treatment, and for staging, restaging, and even monitoring therapy response in most cancers.

PET: PET scans show metabolic changes occurring at the cellular level in an organ or tissue.

• PET is used to reveal chemical and physiological changes in the body.

CT: The CT scan might show signs of cancer, but that cancer might not be active

• CT scan is unable to differentiate cancerous tissue from non-cancerous tissue, Therefore, CT scans can lead to a false negative.

MRI: MRI cannot differentiate between cancerous tissue and cysts (or fibroids).

• They do not clearly identify the location of all tumors in the body.

A meta-analysis was conducted for all 345 included studies and forest plot was plotted for Cervical cancer, Breast cancer, Oral cancer, Gastric cancer and Lung cancer. The meta-analysis uses more data and provides more reliable results. PET/CT for cervical cancer can often detect tiny metastatic LNs ranging in size from 5 to 9 mm, which cannot be diagnosed by MRI or CT [18]. In breast cancer according to [19] compared the performance in recurrent breast cancer patients using FDG-PET/CT and whole-body MRI and found that whole-body MRI showed a higher diagnostic accuracy of 94 versus 90% for FDG-PET/CT. The diagnostic accuracy of PET/CT for oral cancer in detecting distant metastasis and second primary tumors [20]. In gastric cancer the results show that FDG PET/CT shown the detection of recurrence and other stages of cancer. PET/CT in treatment response for lung cancer helps in early detection of recurrence or secondary primary malignancy.

# VII. APPENDIX

Search	s in PubMed Query	Items found						
#1	Search ((cervical cancer [MeSH Terms]) OR lymph							
	node) [MeSH Terms]) OR pelvic [MeSH Terms]							
#2	Search (((positron emission tomography computed	2018						
	tomography [MeSH Terms]) OR PET/CT [MeSH							
	Terms]) AND positron emission tomography [MeSH							
	Terms]) OR PET [MeSH Terms]							
#3	Search (((sensitivity [MeSH Terms]) OR	93255						
	sensitiveness [MeSH Terms]) AND specificity [MeSH							
	Terms]) OR particularity [MeSH Terms]							
#4	Search (((positron emission tomography computed	794002						
	tomography [MeSH Terms]) OR PET/CT [MeSH							
	Terms]) AND computed tomography) OR CT							
#5	Search (((positron emission tomography computed	84060						
	tomography [MeSH Terms]) OR PET/CT [MeSH							
	Terms]) AND magnetic resonance imaging [MeSH							
	Terms]) OR MRI [MeSH Terms]							
#6	Search (((Breast cancer [MeSH Terms]) OR	458529						
	Mammary glands [MeSH Terms]) OR malignant							
	[MeSH Terms]) OR tumor [MeSH Terms]							
#7	Search (((((((((((Breast cancer [MeSH Terms]) OR	15513						
	Mammary glands [MeSH Terms]) OR malignant	1						
	[MeSH Terms]) OR tumor [MeSH Terms]) AND							
	positron emission tomography computed							
	tomography [MeSH Terms]) OR PET/CT [MeSH							
	Terms]) OR computed tomography [MeSH Terms])							
	OR CT [MeSH Terms]) OR positron emission	1						
	tomography [MeSH Terms]) OR PET [MeSH Terms])	1						
	OR magnetic resonance imaging [MeSH Terms]) OR	1						
	MRI [MeSH Terms]) AND Sensitivity [MeSH Terms])	1						
	AND specificity [MeSH Terms]							

#8	Search (((oral cancer) OR oropharyngeal cancer) OR	1693552
	Malignant) OR tumor OR Head and neck cancer	
#9	Search (((((((((((((oral cancer [MeSH Terms]) OR	15513
	oropharyngeal cancer [MeSH Terms]) OR Malignant	
	[MeSH Terms]) OR tumor [MeSH Terms]) AND	
	positron emission tomography computed	
	tomography [MeSH Terms]) OR PET/CT [MeSH	
	Terms]) OR computed tomography [MeSH Terms])	
	OR CT [MeSH Terms]) OR positron emission	
	tomography [MeSH Terms]) OR PET [MeSH Terms])	
	OR magnetic resonance imaging [MeSH Terms]) OR	
	MRI [MeSH Terms]) AND Sensitivity [MeSH Terms])	
	AND Specificity [MeSH Terms]	
#10	Search ((((Gastro intestinal cancer) OR gastric	727776
	cancer) OR stomach cancer) OR malignant) OR	
	tumour	
#11	Search ((((((((((((Gastro intestinal cancer [MeSH	15513
	Terms]) OR gastric cancer [MeSH Terms]) OR	
	stomach cancer[MeSH Terms]) OR malignant[MeSH	
	Terms]) OR tumor[MeSH Terms]) AND positron	
	emission tomography computed tomography[MeSH	
	Terms]) OR PET/CT[MeSH Terms]) OR computed	
	tomography[MeSH Terms]) OR CT[MeSH Terms])	
	OR positron emission tomography[MeSH Terms])	
	OR PET[MeSH Terms]) OR magnetic resonance	
	imaging[MeSH Terms]) OR MRI[MeSH Terms]) AND	
	Sensitivity[MeSH Terms]) AND Specificity[MeSH	
	Terms]	
#12	Search ((((Lung cancer) OR gastric cancer) OR lung	764656
	carcinoma) OR malignant) OR Lung tumour	
#13	Search (((((((((((((Lung cancer [MeSH Terms]) OR	16437
	lung carcinoma [MeSH Terms]) OR lung tumour	

Search	Query	Items found				
#1	Search (cervical cancer) ):ti,ab,kw OR (lymph node)	54321				
	):ti,ab,kw OR ( pelvic ):ti,ab,kw					
#2	Search (positron emission tomography computed	24642				
	tomography):ti,ab,kw OR (PET/CT):ti,ab,kw AND					
	(positron emission tomography):ti,ab,kw OR					
	(PET):ti,ab,kw					
#3	Search (sensitivity) :ti,ab,kw OR	16617				
	(sensitiveness):ti,ab,kw AND specificity):ti,ab,kw					
#4	Search (positron emission tomography computed	744256				
	tomography):ti,ab,kw OR (PET/CT):ti,ab,kw AND					
	(computed tomography):ti,ab,kw OR 9CT):ti,ab,kw					
#5	Search (positron emission tomography computed	561469				
	tomography):ti,ab,kw OR (PET/CT):ti,ab,kw AND					
	magnetic resonance imaging):ti,ab,kw OR					
	(MRI):ti,ab,kw					
#6	Search (Breast cancer):ti,ab,kw OR (Mammary	37305				
	glands):ti,ab,kw OR (malignant):ti,ab,kw OR					
	(tumor):ti,ab,kw					
#7	Search (Breast cancer):ti,ab,kw OR (Mammary	116881				
	glands):ti,ab,kw OR (malignant) )ti,ab,kw OR					
	(tumor):ti,ab,kw AND (positron emission					
	tomography computed tomography) :ti,ab,kw OR					
	PET/CT):ti,ab,kw OR computed					
	tomography):ti,ab,kw OR CT):ti,ab,kw OR positron					
	emission tomography):ti,ab,kw OR PET):ti,ab,kw OR					
	magnetic resonance imaging):ti,ab,kw OR					
	MRI):ti,ab,kw AND Sensitivity):ti,ab,kw AND					
	specificity):ti,ab,kw					

97

#8	Search (oral cancer) ):ti,ab,kw OR oropharyngeal	1693552
	cancer) ):ti,ab,kw OR Malignant) ):ti,ab,kw OR	
	tumor):ti,ab,kw OR Head and neck cancer) ):ti,ab,kw	
#9	Search (oral cancer):ti,ab,kw OR oropharyngeal	561196
	cancer):ti,ab,kw OR Malignant):ti,ab,kw OR	
	tumor):ti,ab,kw AND positron emission tomography	
	computed tomography):ti,ab,kw OR	
	PET/CT):ti,ab,kw OR computed	
	tomography):ti,ab,kw OR CT):ti,ab,kw OR positron	
	emission tomography):ti,ab,kw OR PET):ti,ab,kw OR	
	magnetic resonance imaging ):ti,ab,kw OR	
	MRI):ti,ab,kw AND Sensitivity):ti,ab,kw AND	
	Specificity):ti,ab,kw	
#10	Search (Gastro intestinal cancer) ):ti,ab,kw OR	8087
	gastric cancer) ):ti,ab,kw OR stomach cancer) OR	
	malignant) ):ti,ab,kw OR tomor):ti,ab,kw	
#11	Search (Gastro intestinal cancer):ti,ab,kw OR gastric	491396
	cancer):ti,ab,kw OR stomach cancer):ti,ab,kw OR	
	malignant):ti,ab,kw OR tumor):ti,ab,kw AND	
	positron emission tomography computed	
	tomography):ti,ab,kw OR PET/CT):ti,ab,kw OR	
	computed tomography):ti,ab,kw OR CT):ti,ab,kw OR	
	positron emission tomography):ti,ab,kw OR	
	PET):ti,ab,kw OR magnetic resonance	
	imaging):ti,ab,kw OR MRI):ti,ab,kw AND	
	Sensitivity):ti,ab,kw AND Specificity):ti,ab,kw	
#12	Search (Lung cancer)): ti,ab,kw OR Lung carcinoma)	6128
	):ti,ab,kw OR lung tumour) OR malignant) ):ti,ab,kw	
	OR tumor):ti,ab,kw	
#13	Search (Lung cancer): ti,ab,kw OR Lung	581435
	carcinoma):ti,ab,kw OR lung tumour):ti,ab,kw OR	
	malignant):ti,ab,kw OR tumor):ti,ab,kw AND	

Google scholar:2430

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