

Incidence and prevalence of papillary carcinoma of thyroid gland in Al- muthana province

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ABSTRACT

This investigation was conducted for Incidence and Prevalence of papillary carcinoma in AL-Muthana provinces (2019 – 2023). Total No. of cases 372 with papillary carcinoma in AL-Muthana provinces were used in this study. The demographical data were taken from all patients. The results showed that 49.5% from cases were non neoplastic and 50.5% were with neoplastic case. The carcinoma was recorded significantly higher in Female (88%) than male (12%), and the age between 21-40 years were most dominant. The current results exhibited that malignant cases according to With LN. were 24% and With Out LN involvement were 76%. The Classification of Malignant without LN cases according to histopathological diagnosis showed that 18% with Follicular carcinoma and 82% with Papillary carcinoma, while with LN involvement showed 11% Papillary microcarcinoma and 89% were with Papillary carcinoma. In conclusion, the Papillary carcinoma was highly incidence in ALMuthana provinces at (2019 – 2023).

Keywords: Papillary carcinoma, neoplastic, malignant

INTRODUCTION

There has been a meteoric rise in the incidence of thyroid carcinoma within the last few decades (1). According to the latest cancer data from the US, it is the sixth most prevalent disease among female patients (1). This rise is virtually completely due to the increasing frequency of papillary thyroid carcinoma, according to many population-based studies that were collected from big cancer registries globally (2–15). Thyroid cancer's increasing prevalence has long been a contentious topic among medical professionals. The apparent rise in incidence, according to some writers, is probably caused by the overdiagnosis of tiny subclinical tumors brought about by the growing use of sensitive diagnostic tests (6). Recent advances in ultrasonography have made it possible to identify thyroid nodules as little as 2 mm in diameter (16). This allowed for the subsequent identification of these tiny malignancies on cytological backgrounds using fine-needle aspirations of the nodules. Also, classical autopsy studies find occult papillary thyroid cancers in 10–36% of cadavers; these cancers would have likely gone undetected unless researchers started using more sensitive methods or happened to find them in thyroid glands by accident (17). However, there were some specialists who contended that the higher incidence pertained to tumors of all sizes, including those with expanded thyroid tissue and lymph node metastases (18).

MATERIALS AND METHODS

A cross sectional study including 372 patients with papillary carcinoma in AL-Muthana provinces were used in this study. The demographical data were taken from all patients.

Statistical analysis was done by using SPSS version 24.

RESULTS

The current results showed that there was no significant differences between neoplastic and non neoplastic types (Table 1).

Table 1: Classification of cases.

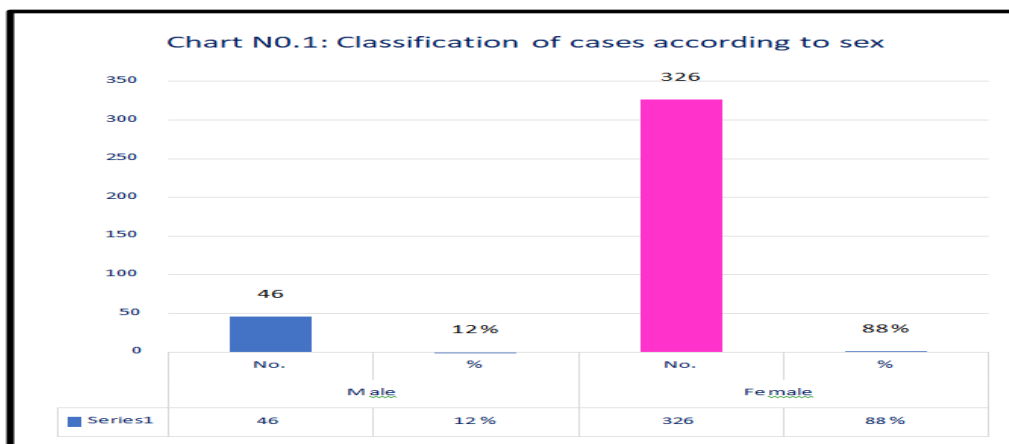
Total No. of cases 372	Non-Neoplastic		Neoplastic	
	No.	%	No.	%
	184	49.5%	188	50.5%

			Benign		Malignant			
			No.	%	No.		%	
			114	61%	74		39%	
					With LN		With Out LN	
			No.	%	No.	%		
18	24%	56	76%					

Female was significantly highly affected than male (Table 2, Figure 1).

Table 2: Classification of cases according to sex.

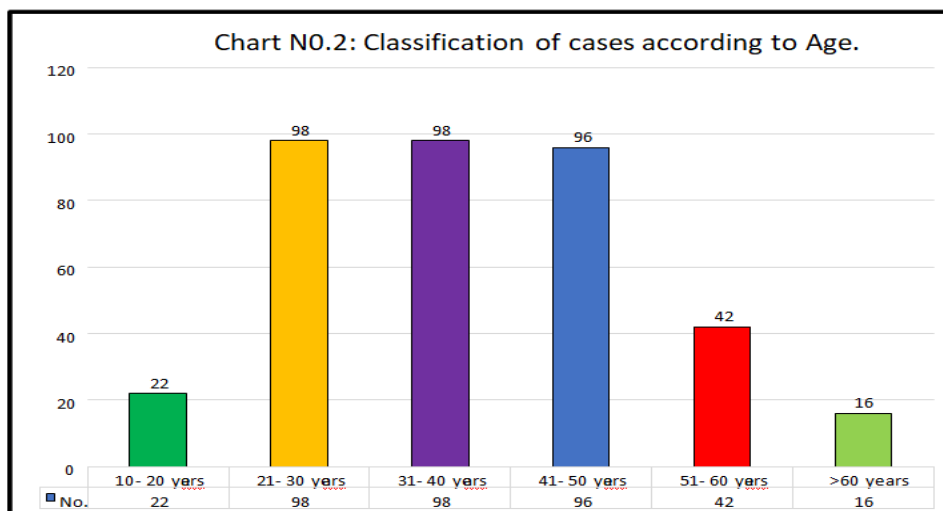
Total No. of cases 372	Male		Female	
	No.	%	No.	%
	46	12%	326	88%



The age between 21-50 years was significantly higher than age groups (Table 3, Figure 2).

Table 3: Classification of cases according to Age.

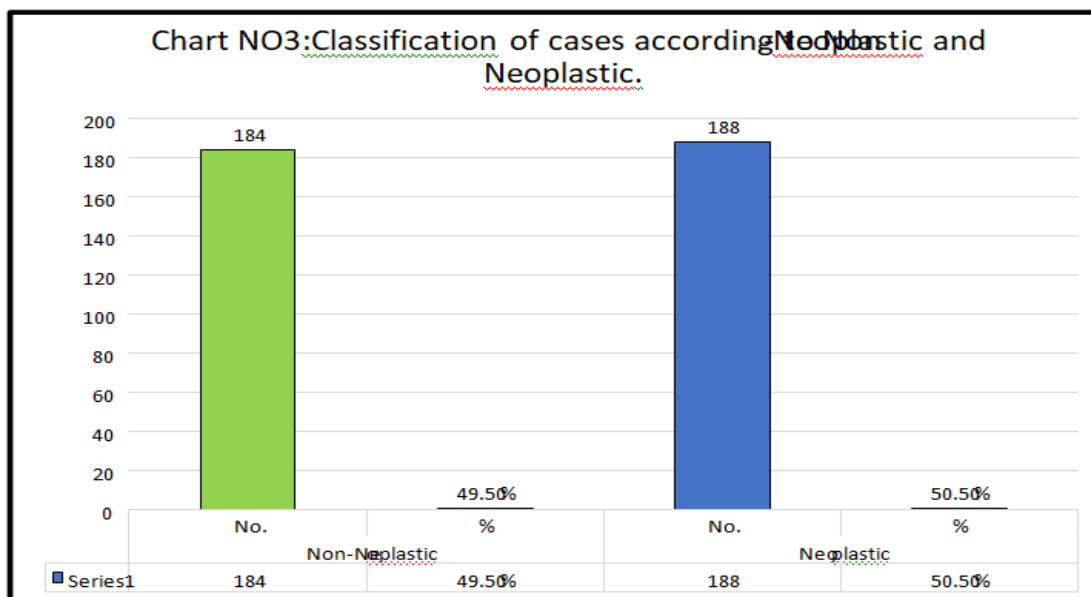
Total No. of cases 372	Age	No.	%
	10 - 20 years	22	6%
	21 - 30 years	98	26.3%
	31 - 40 years	98	26.3%
	41 - 50 years	96	25.8%
	51 - 60 years	42	11.3%
	> 60 years	16	4.3%



There was no significant differences between neoplastic and nan neoplastic pateints (Table 4, figure 3).

Table 4: Classification of cases according to Non-Neoplastic and Neoplastic.

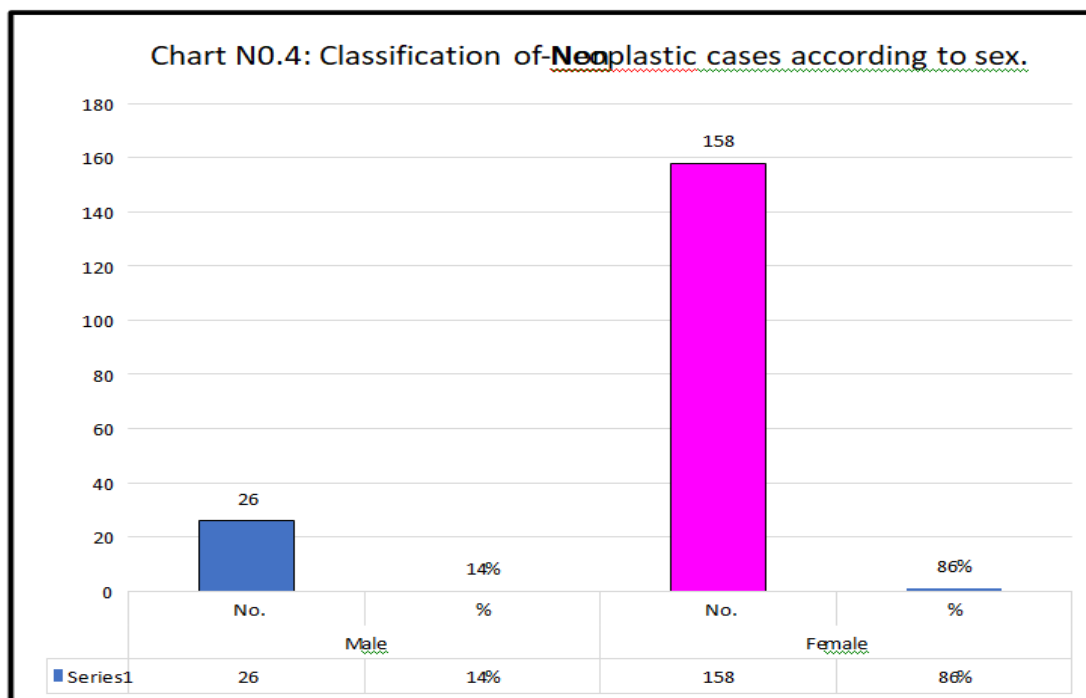
Total No. of cases 372	Non-Neoplastic		Neoplastic	
	No.	%	No.	%
	184	49.5%	188	50.5%



Among non neoplastic cases, the females were significantly higher than males (Table 5, Figure 4).

Table 5: Classification of Non-Neoplastic cases according to sex.

Total No. of Non-Neoplastic 184 cases	Male		Female	
	No.	%	No.	%
	26	14%	158	86%



According to the age, the age group 41-50 years were significantly higher than another groups (Table 6, figure 5).

Table 6: Classification of Non-Neoplastic cases according to age.

Total No. of Non-Neoplastic 184 cases	Age	No.	%
	10 - 20 years	10	5.4%
	21 - 30 years	38	20.7%
	31 - 40 years	42	23%
	41 - 50 years	52	28.2%
	51 - 60 years	34	18.4%
> 60 years	8	4.3%	

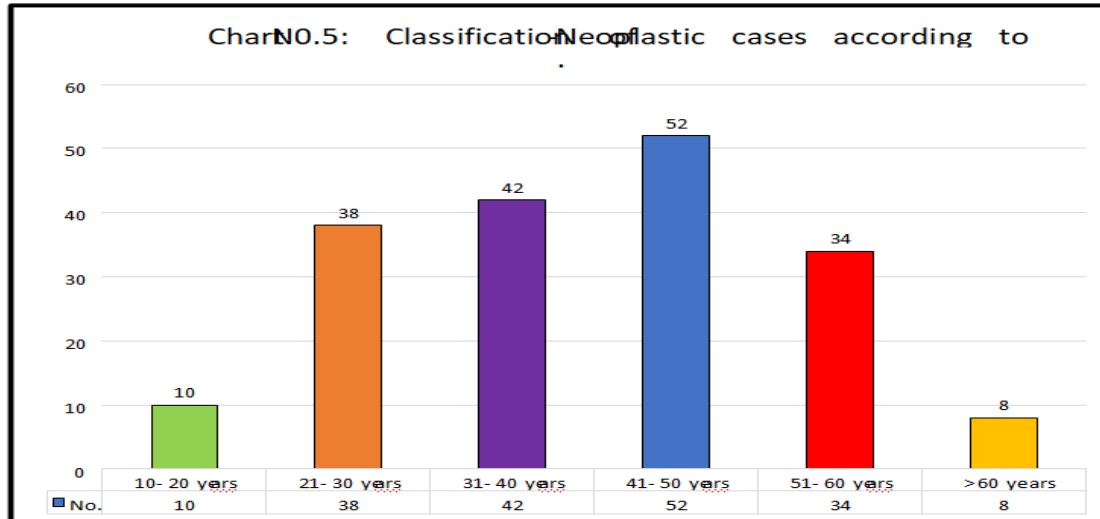
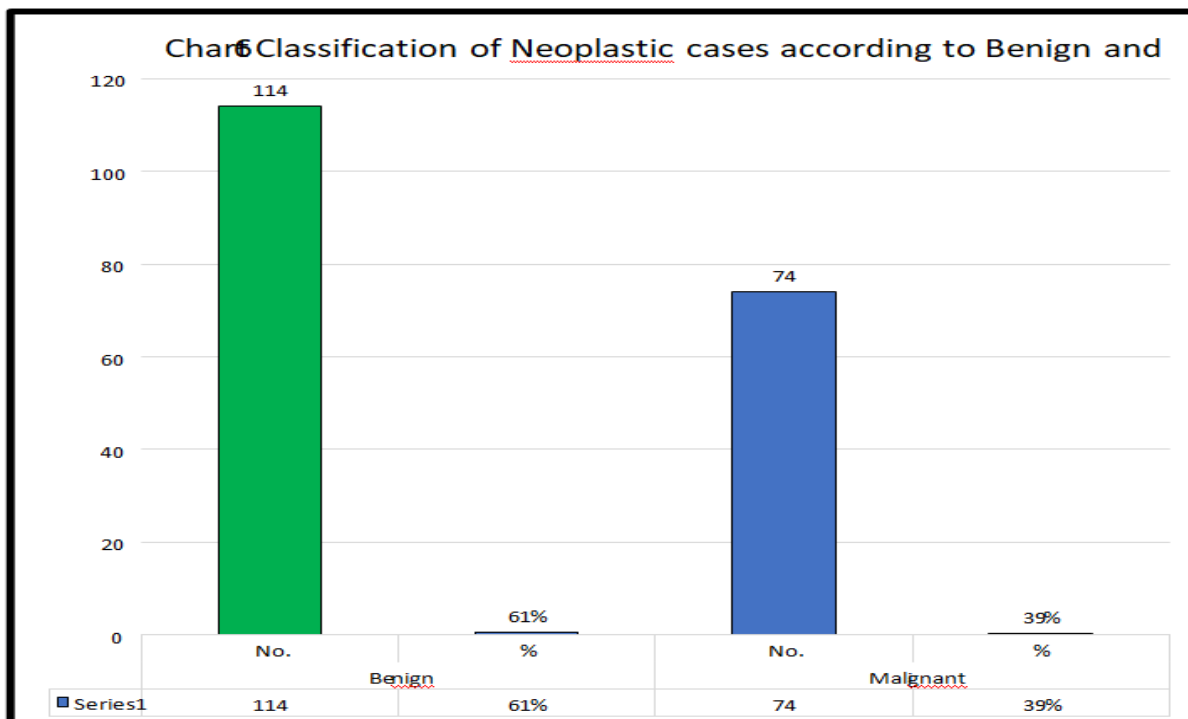


Table 7, exhibited the Classification of Neoplastic cases according to Benign and Malignant, the results showed that there was 61% of cases were benign and 39% were malignant (Figure 6).

Table 7: Classification of Neoplastic cases according to Benign and Malignant.

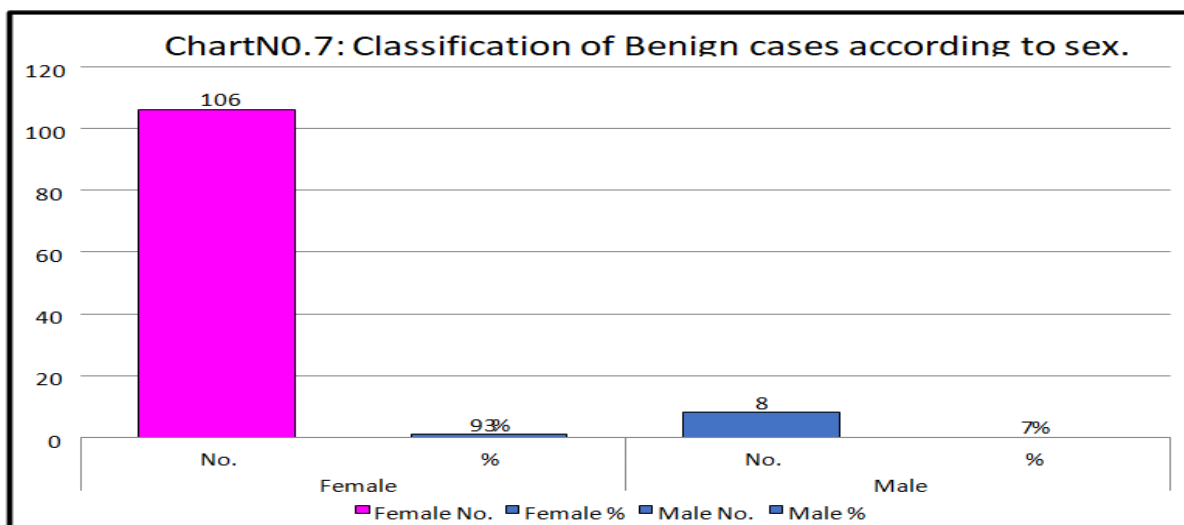
Total No. of Neoplastic 188 cases	Benign		Malignant	
	No.	%	No.	%
	114	61%	74	39%



The benign cases showed that 97% of these cases were in females and 7% were males (Table 8, Figure 7).

Table 8: Classification of Benign cases according to sex.

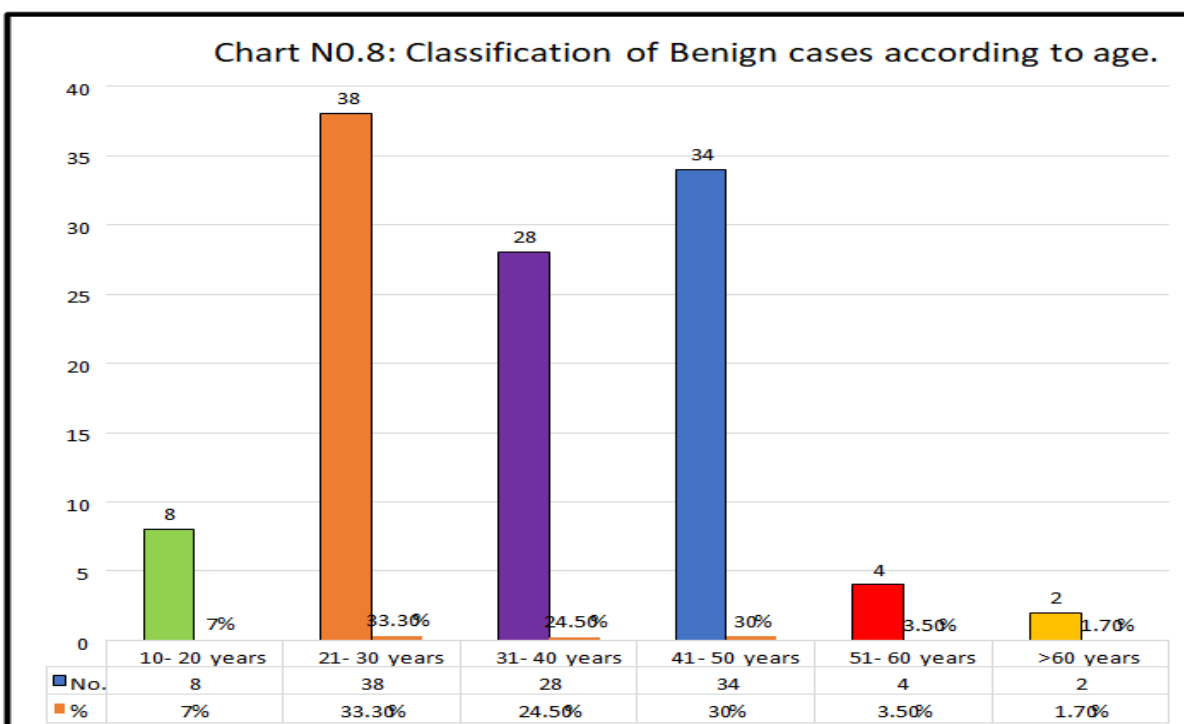
Total No. of Benign cases	Female		Male	
	No.	%	No.	%
114 cases	106	93%	8	7%



The current results showed that age group 21-30 years were the most prevalent group than other (Table 9, Figure 8).

Table 9: Classification of Benign cases according to age.

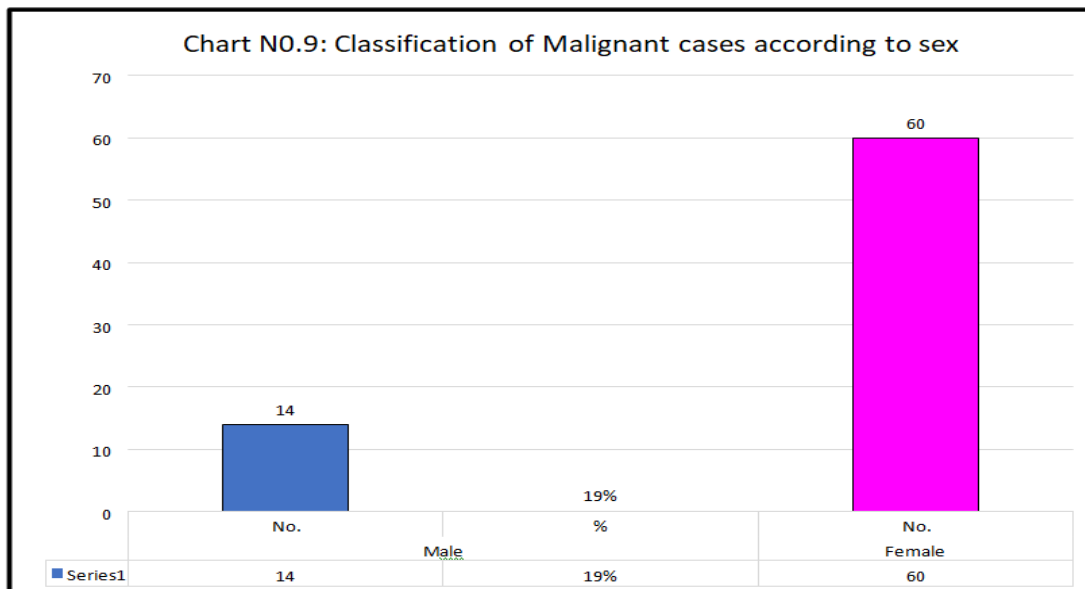
Total No. of Benign cases	Age	No.	%
	10 - 20 years	8	7%
	21 - 30 years	38	33.3%
	31 - 40 years	28	24.5%
	41 - 50 years	34	30%
	51 - 60 years	4	3.5%
	> 60 years	2	1.7%



From Malignant cases, there were 81% of cases were female, while 19% were males (Table 10, Figure 9).

Table 10: Classification of Malignant cases according to sex.

Total No. of Malignant 74 cases	Male		Female	
	No.	%	No.	%
	14	19%	60	81%



The present results showed that age group 41-50 years were the most significant group than other (Table 11, figure 10).

Table 11: Classification of Malignant cases according to age.

Total No. of Malignant 74 cases	Age	No.	%
	10 - 20 years	4	5.5%
	21 - 30 years	10	13.5
	31 - 40 years	18	24.3%
	41 - 50 years	28	37.8%
	51 - 60 years	8	10.8%
	> 60 years	6	8.1%

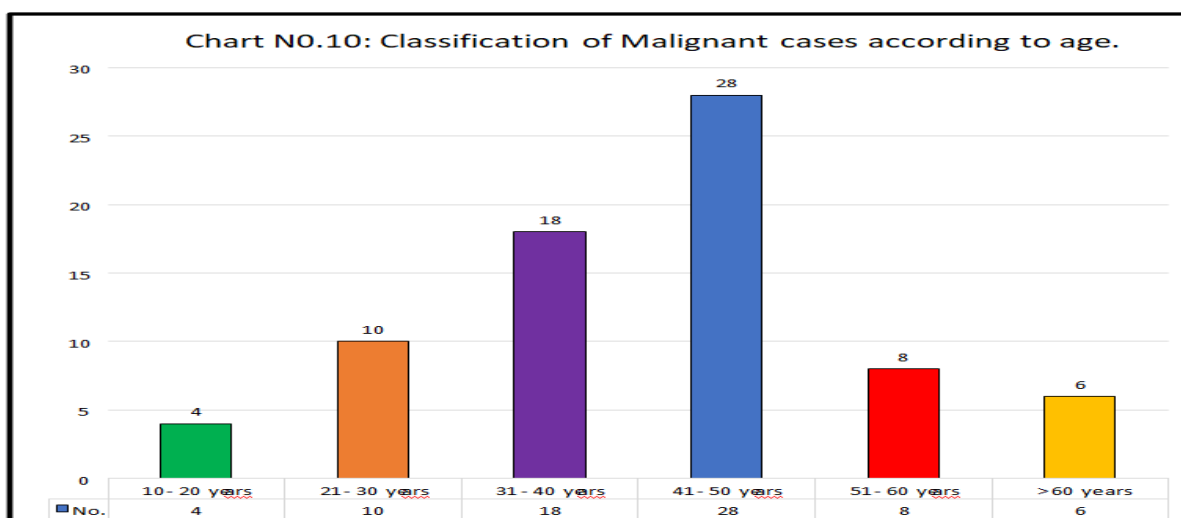
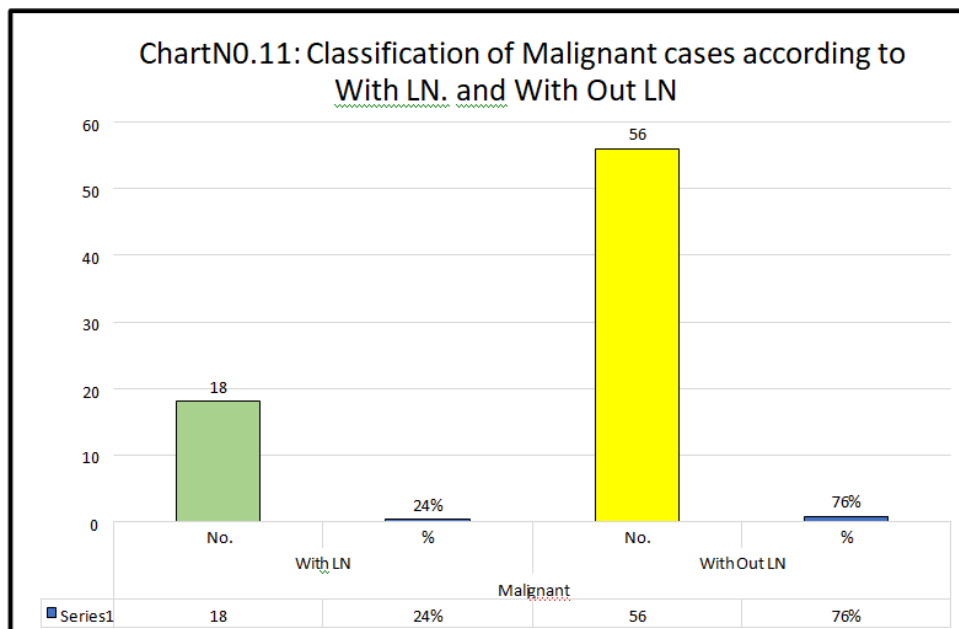


Table 12 showed the classification of Malignant cases according to LN involvement, the results exhibit that from 74 malignant cases, 56 cases were without LN involvement, while 18 cases were with LN involvement (Figure 11).

Table 12: Classification of Malignant cases according to With LN. and With Out LN

Total No. of Malignant 74 cases	Malignant			
	With LN		With Out LN	
	No.	%	No.	%
	18	24%	56	76%



The classification of Malignant with LN cases according to sex showed that 89% of cases were females, while 11% were males (Table 13, Figure 12).

Table 13: Classification of Malignant with LN cases according to sex.

Total No. of Malignant with LN 18 cases	Malignant With LN			
	Male		Female	
	No.	%	No.	%
	2	11%	16	89%

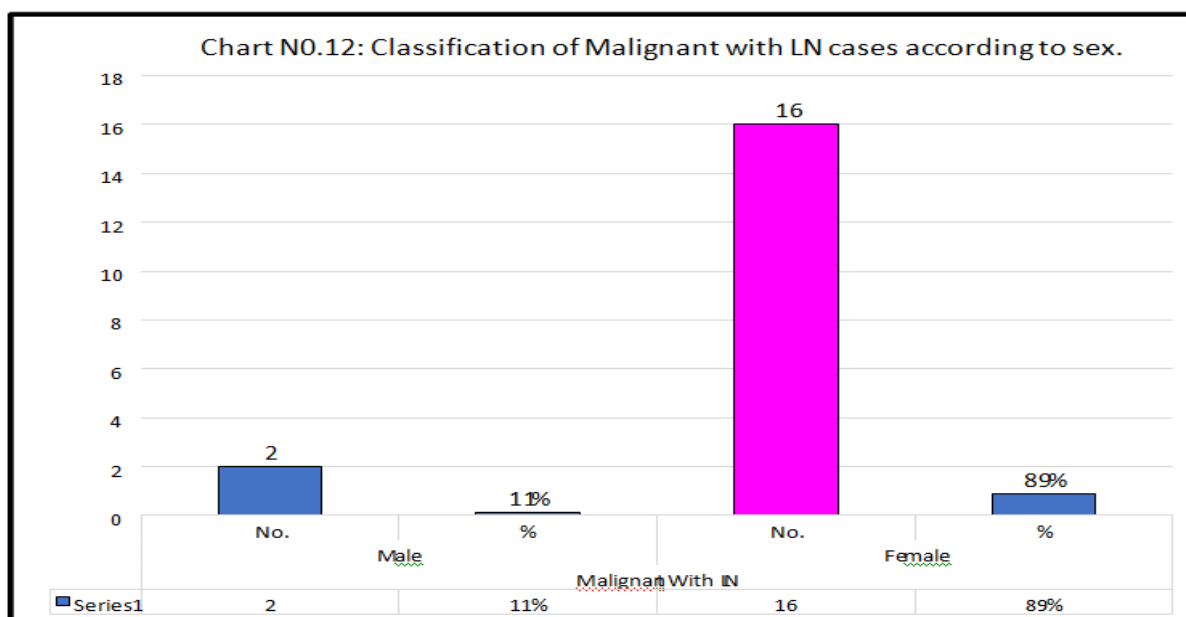
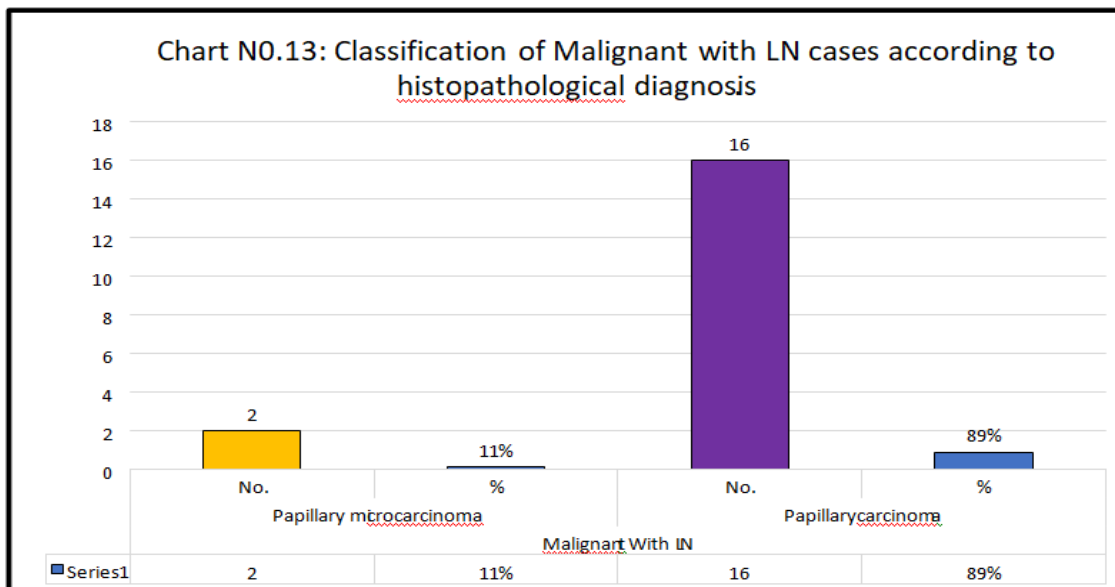


Table 14 presents the classification of Malignant with LN cases according to histopathological diagnosis showed that 89% of cases were Papillary carcinoma while 11% of cases were Papillary microcarcinoma(Figure 13).

Table 14: Classification of Malignant with LN cases according to histopathological diagnosis.

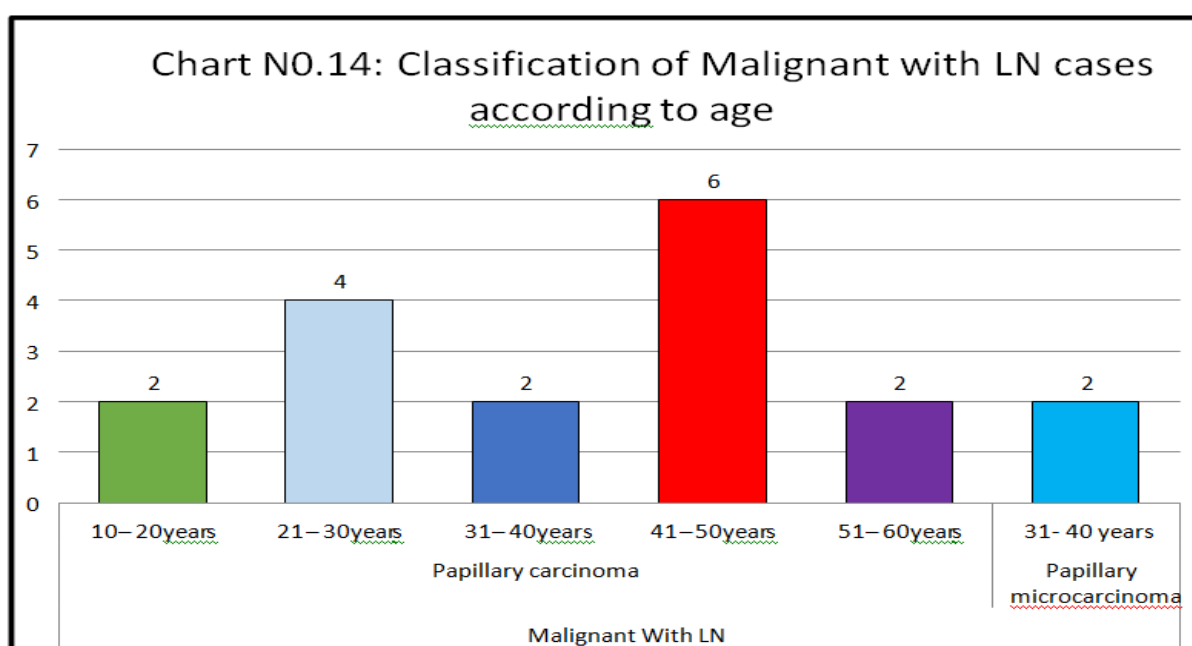
Total No. of Malignant with LN 18 cases	Malignant With LN			
	Papillary microcarcinoma		Papillary carcinoma	
	No.	%	No.	%
	2	11%	16	89%



The age group 41-50 years showed a significant than another age groups from cases with papillary carcinoma, while papillary microcarcinoma showed only at age group 31-40years (Table 15, Figure 14).

Table 15: Classification of Malignant with LN cases according to age

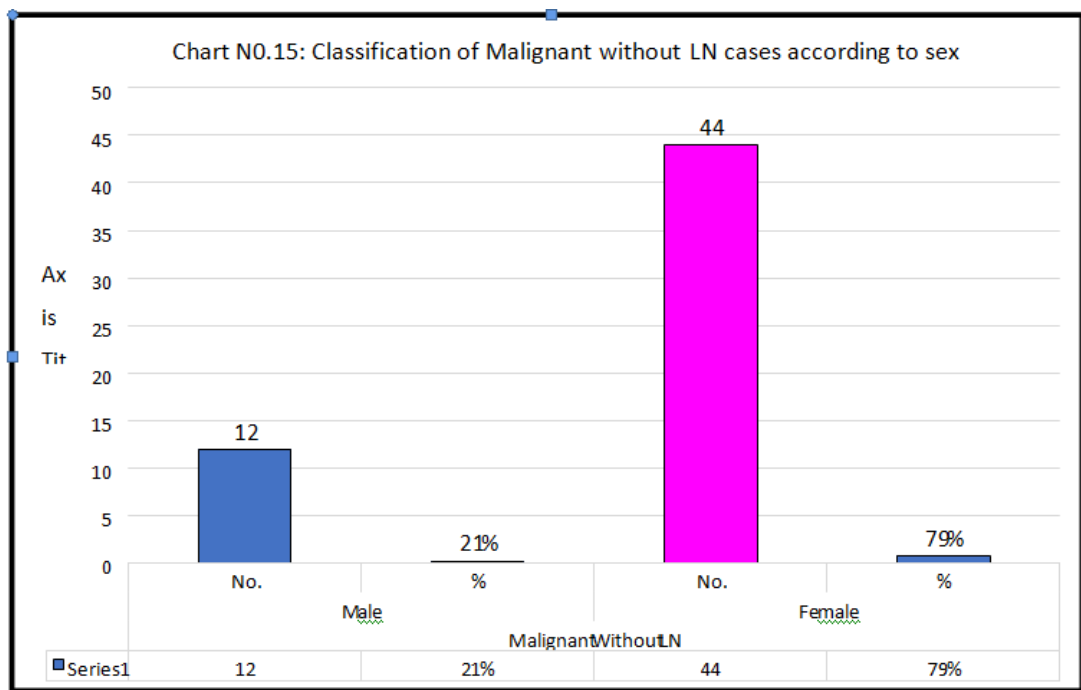
Total No. of Malignant with LN 18 cases	Malignant With LN					
	Papillary carcinoma					Papillary microcarcinoma
Age/years	10 – 20 years	21 – 30 years	31 – 40 years	41 – 50 years	51 – 60 years	31 - 40 years
No - %	2 (11.1%)	4 (22.2%)	2 (11.1%)	6 (33.4%)	2 (11.1%)	2 (11.1%)



Female cases were most prevalent than males about malignant cases without LN (Table 16, Figure 15).

Table 16: Classification of Malignant without LN cases according to sex

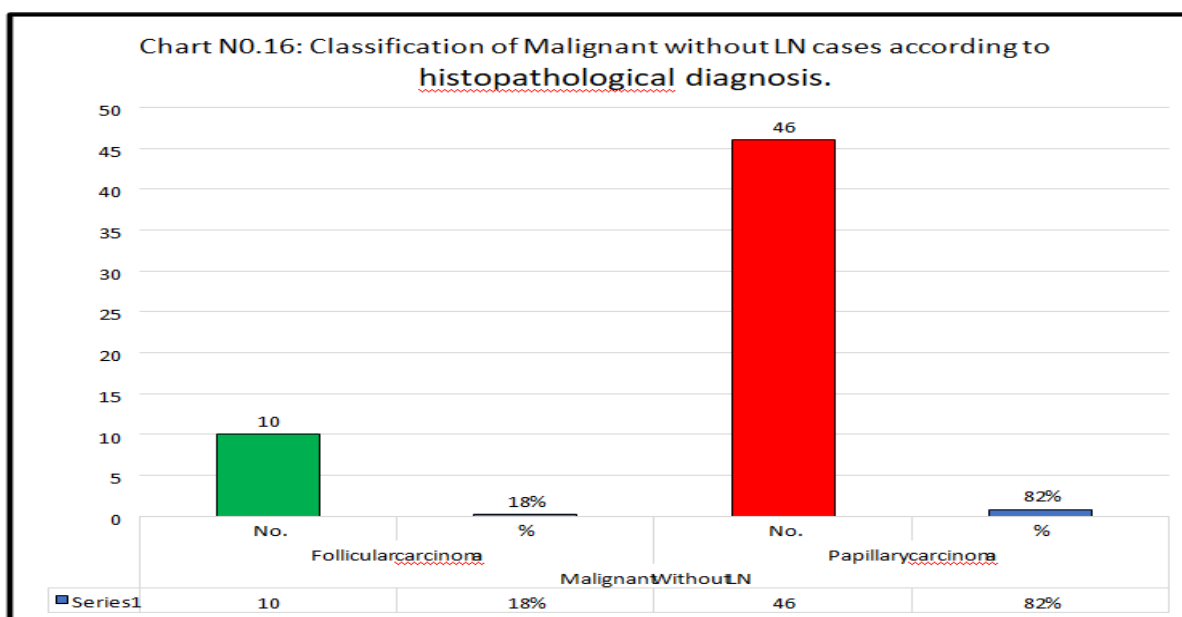
Total No. of Malignant without LN cases 56 cases	Malignant Without LN			
	Male		Female	
	No.	%	No.	%
	12	21%	44	79%



From 56 malignant cases, 46 cases were papillary carcinoma, while 10 cases were follicular carcinoma (Table 17, Figure 16).

Table 17: Classification of Malignant without LN cases according to histopathological diagnosis.

Total No. of Malignant without LN cases 56 cases	Malignant Without LN			
	Follicular carcinoma		Papillary carcinoma	
	No.	%	No.	%
	10	18%	46	82%



The current results showed that papillary carcinoma were higher at age group 41-50 years (Table 18, Figure 17).

Table 18: Classification of Malignant without LN cases according to age

Total Malignant LN 56 cases	No. of without	Malignant Without LN								
		Follicular carcinoma			Papillary carcinoma					
Age/years		31 - 40	41 - 50	51 - 60	10 - 20	21 - 30	31 - 40	41 - 50	51 - 60	>60
No - %		4 (7%)	2 (3.5%)	4 (7%)	2 (3.5%)	6 (11%)	10 (17.8%)	20 (35.6%)	2 (3.5%)	6 (11%)

DISCUSSION

Our research demonstrates that papillary thyroid carcinoma was the only histological subtype responsible for the observed rise in thyroid cancer incidence between 2020 and 2022. Results from other nations throughout the globe are consistent with these results (2,3). American, Australian, Polish, Turkish, British, Iranian, and Arab nations, such as the UAE and the kingdom of Saudi Arabia, all had increases of a similar magnitude (1,4,6,14). More than 90% of thyroid cancer patients are papillary thyroid carcinoma (PTC) (3,4). Almost of worsening diagnoses are caused by increases in PTC, according to previous investigations (5).

Particularly in females, thyroid carcinoma (TC) has been on the rise over the last several decades (1,2). Consistent with previous research, we also discovered that young female patients (40-50 years) bore the brunt of this surge (8,9-11,12). Both papillary and follicular thyroid cancers tend to manifest in middle-aged people, with the third and fourth decades seeing the highest rates of occurrence (19).

People in the 20–55 age range are the most common for papillary thyroid malignancies to emerge (20).

Recent research from Iran and Canada (11,15) indicated that the diagnosis of both tiny, early-stage tumors and bigger regional stage cancers increased, which is consistent with our findings. Increasing numbers of tumors at the T1 stage and tumors with metastases to regional lymph nodes have been documented in recent studies conducted in Poland and the Kingdom of Saudi Arabia (8,12).

However, in other research, papillary thyroid microcarcinomas were shown to account for a larger number of instances, even more than 50% in certain studies (5,6,17,21,22). These found no changes in either big thyroid tumors or malignancies in their later stages, and they concluded that the rising incidence of thyroid cancer is mostly attributable to the increased identification of tiny papillary cancers. Placing patients at risk of needless surgical therapy and its hazardous consequences, they contended that the rising number of PTC diagnoses is mostly due to the overdiagnosis of microcarcinomas that are clinically quiet, occult, and irrelevant (23).

CONCLUSION

The papillary carcinoma was occur mostly in female at age 40-50 years.

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