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A Retrospective Analysis of the Prevalence of Skin Diseases in Biopsy Specimens in a Tertiary Care Hospital

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Abstract
Skin diseases are more prevalent in developing countries. The prevalence varies from country to country and also from region to region within a country. The spectrum of skin diseases depends on the age,gender and other factors. The histopathological diagnosis helps the clinician in managing the patient appropriately.

Materials and Methods: *The study included an analysis of 440 skin biopsies over a period of one year, done in a tertiary care Hospital. The study included all skin biopsies including plaques, cyst s& nodules.*

Results: *Of the 440 skin biopsies, Infectious disease constituted the most common cause of non neoplastic skin disease, constituting about 15%. The next common condition was papulosquamous disorder (10.22 %), followed by inflammatory dermatosis (2.95%), eczema (2.72%), vasculitis and genodermatosis each constituting 2.27%. Among the tumours and tumour like lesions, Benign tumours constituted about 36.5 %, Malignant tumours 8.86% and cysts 15%.*

Introduction

The skin is a complex organ with many important functions. It is the largest organ in the human body. The diseases affecting the skin range from simple acne to fatal Toxic epidermolysis bullosa.

Aim

To analyse the histopathological spectrum of varied skin diseases from cases referred to a tertiary care hospital.

Materials and Methods

The study was done over a period of one year in a tertiary care hospital. The study included a total of 440 skin biopsies processed and stained by Hematoxylin-Eosin stain, and examined by a pathologist. Special stains like PAS, Ziehl-Neilsen stain and Fite Farraco were done as needed. The data was entered into a spreadsheet and analysed. The skin diseases were classified into non-neoplastic and neoplastic skin diseases. The non neoplastic diseases were further classified into genodermatosis, papulosquamous diseases, infections, vasculitis, connective tissue disorders, eczema, bullous disorders and miscellaneous conditions. The neoplastic disorders are classified into benign tumours & tumour like conditions and malignant tumours.

S.NO	DISORDERS	PREVALENCE%
1	Genodermatoses	2.27%
2	Papulosquamous disorders	10.22%
3	Infections	15%
4	Connective tissue disorders	2.95%
5	Eczema	2.72%
6	Bullous diseases	2.27%
7	Miscellaneous	1.18%
8	Cysts	15%
9	Benign tumours&tumour like lesions	36.5%
10	Malignant tumours	8.86%

Results

The majority of the patients were found to be males with male preponderance in Lipoma, Leprosy and in Malignant epidermal tumours. The most common non neoplastic skin disease was infectious disease, followed by erythematous papulosquamous disease. Rare diseases include Follicular mucinosis and Erythema annulare centrifugum.

Among the tumours and tumour like conditions, benign tumors were more common than malignant (36.5 % vs 8.86%). Among benign tumours, Lipomas (13.4%) were more common followed by vascular tumours (5.45%), Fibrohistiocytic lesions (3.18%), Hair follicle tumours (2.95%), nevus (2.04%) and miscellaneous conditions(5.68%). Lipomas were found to occur in high incidence in the age group of 50-60 years in males. Lipomas were found most commonly in 30-40 years of age in females.

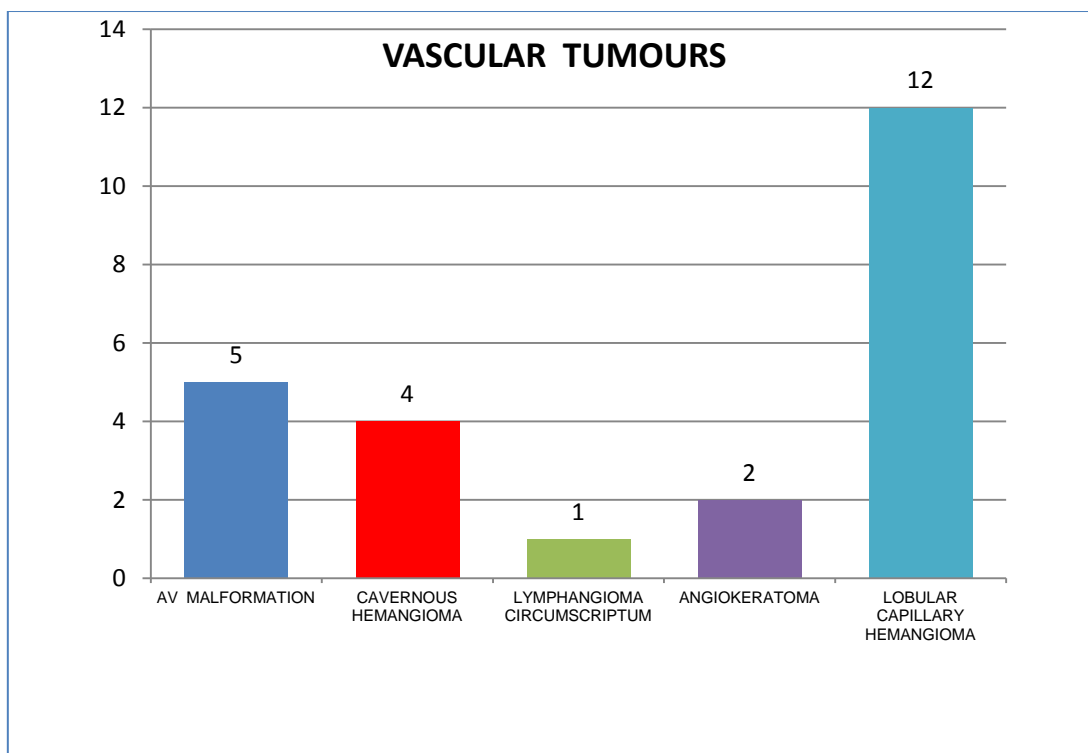| S.NO	TUMOURS	PREVALENCE
1.	Vascular	5.45%
2.	Neural	2.5%
3	Lipoma	13.4%
3	Fibrohistiocytic	3.18
4	Eccrine tumours	1.6%
5	Apocrine tumours	0.7%
6	Hair follicle tumours	2.95%
7	Nevus	2.04%
8	Malignant tumours	8.86%
9	Miscellaneous	5.68%

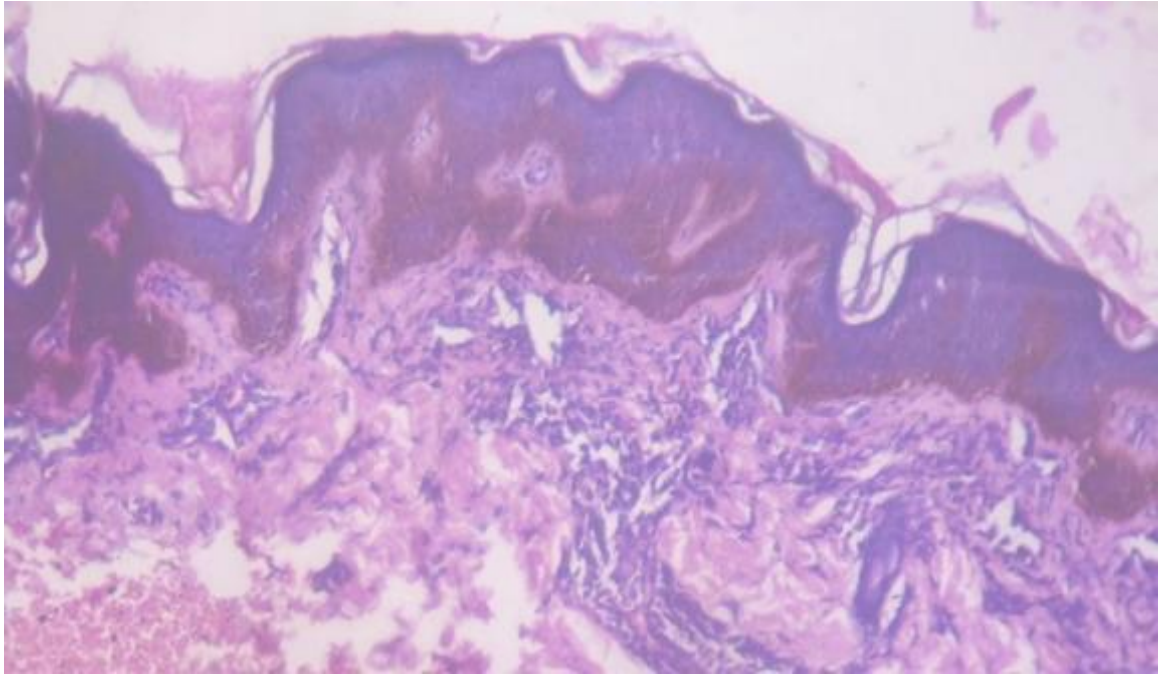**Figure 1** : Prevalence of Vascular tumours
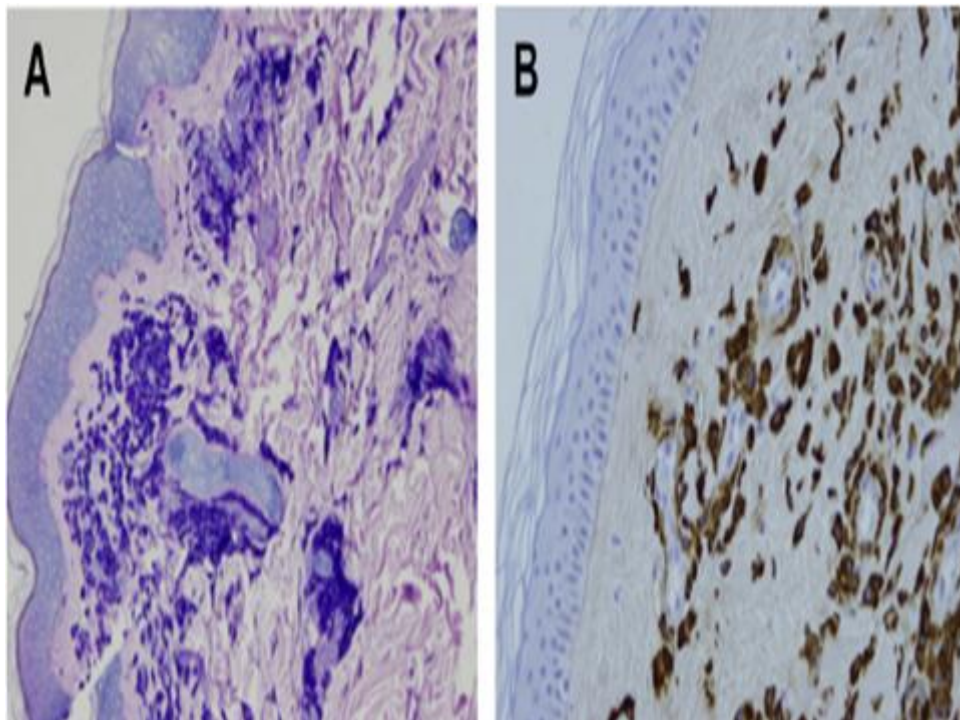
Figure 2: Mastocytosis

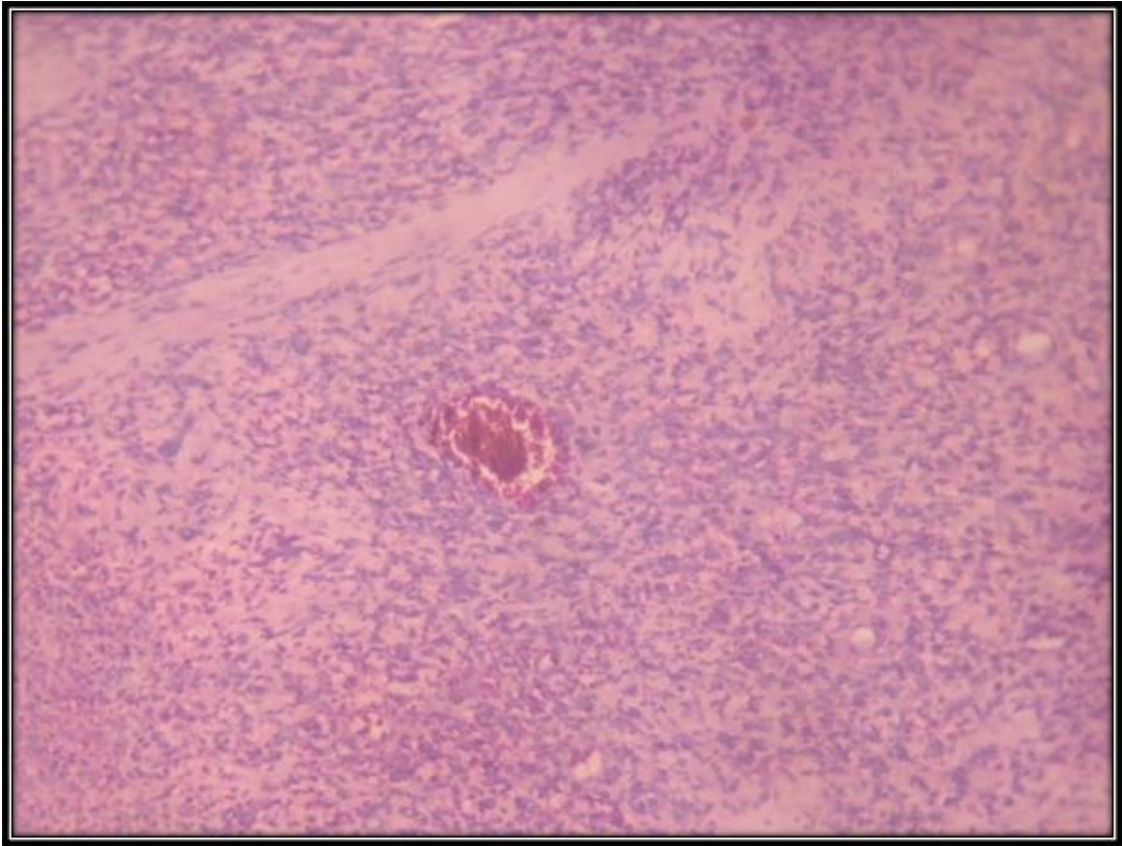**Figure 3 :** Mastocytosis : A- Special stains – Giemsa; B- IHC – CD 117
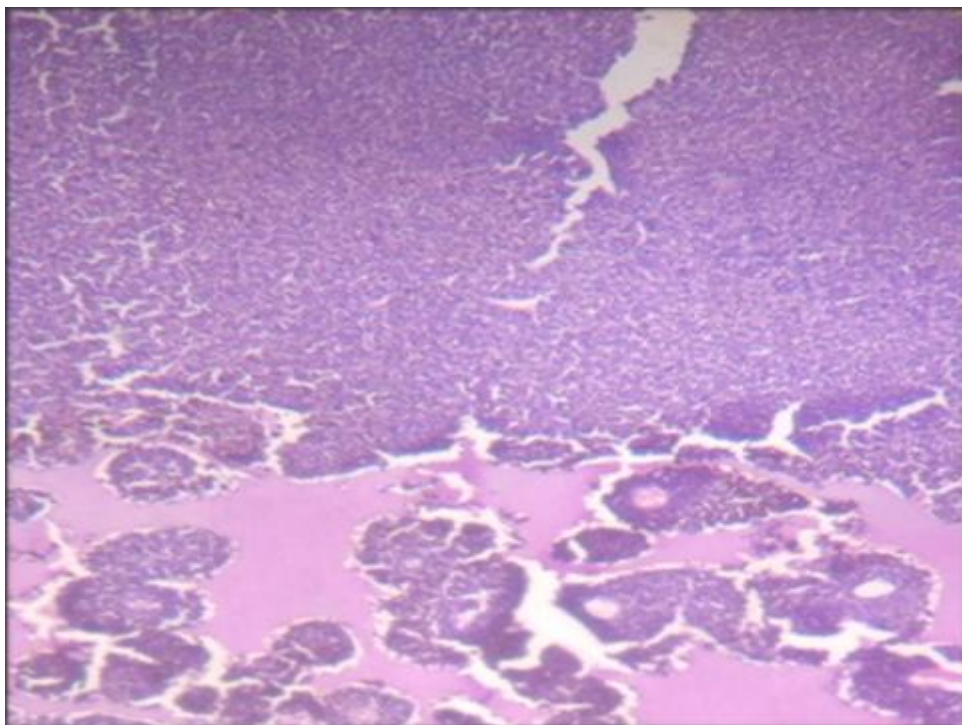
Figure 4: Malignant melanoma
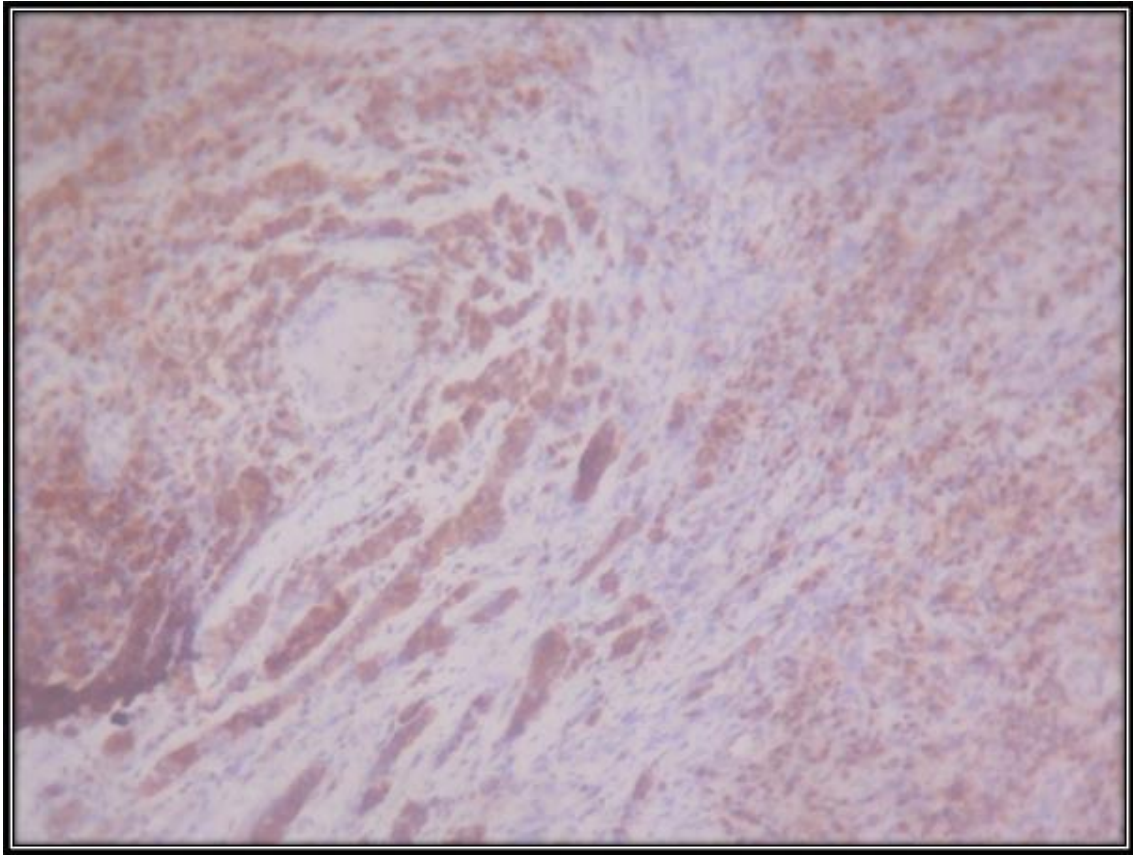

Figure 5: Malignant melanoma

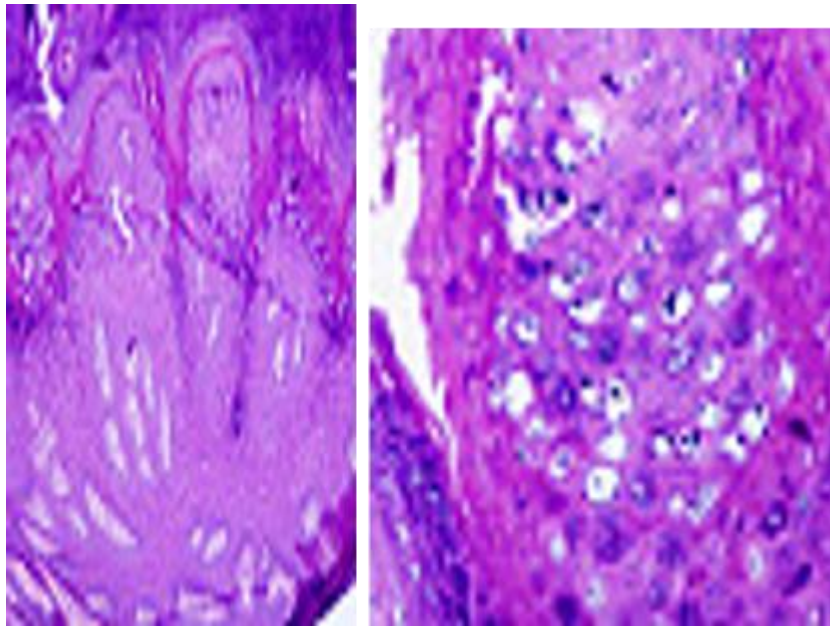**Figure 6:** IHC – HMB 45 – Malignant melanoma
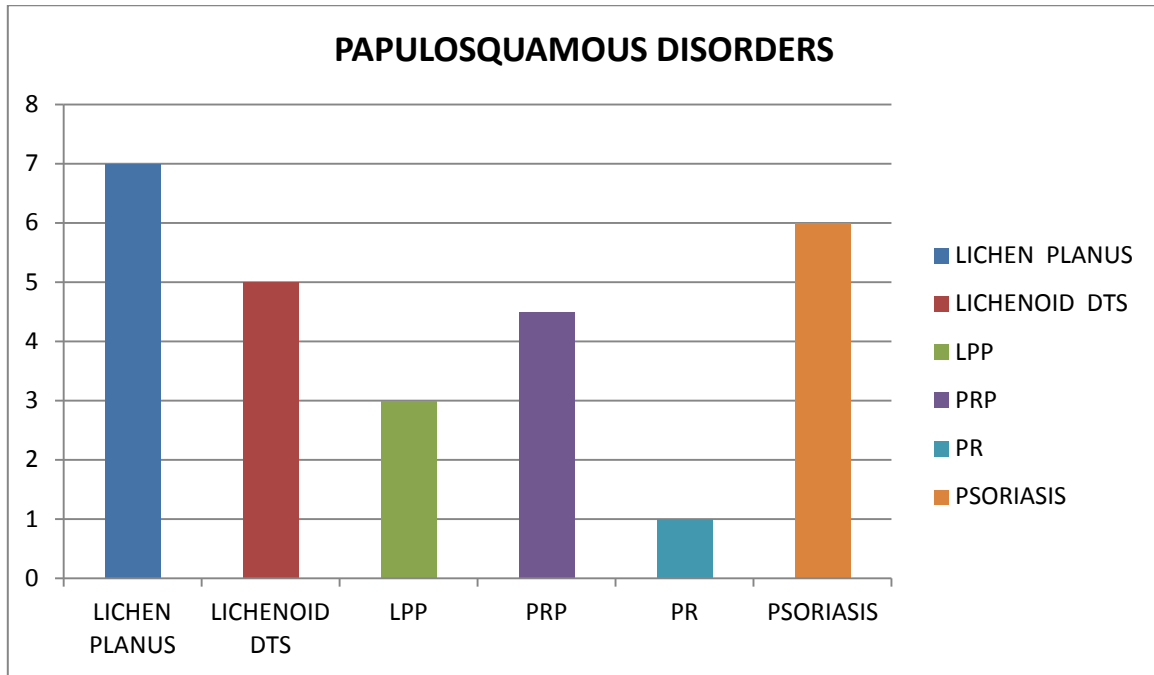

Figure 7: Plantar Wart

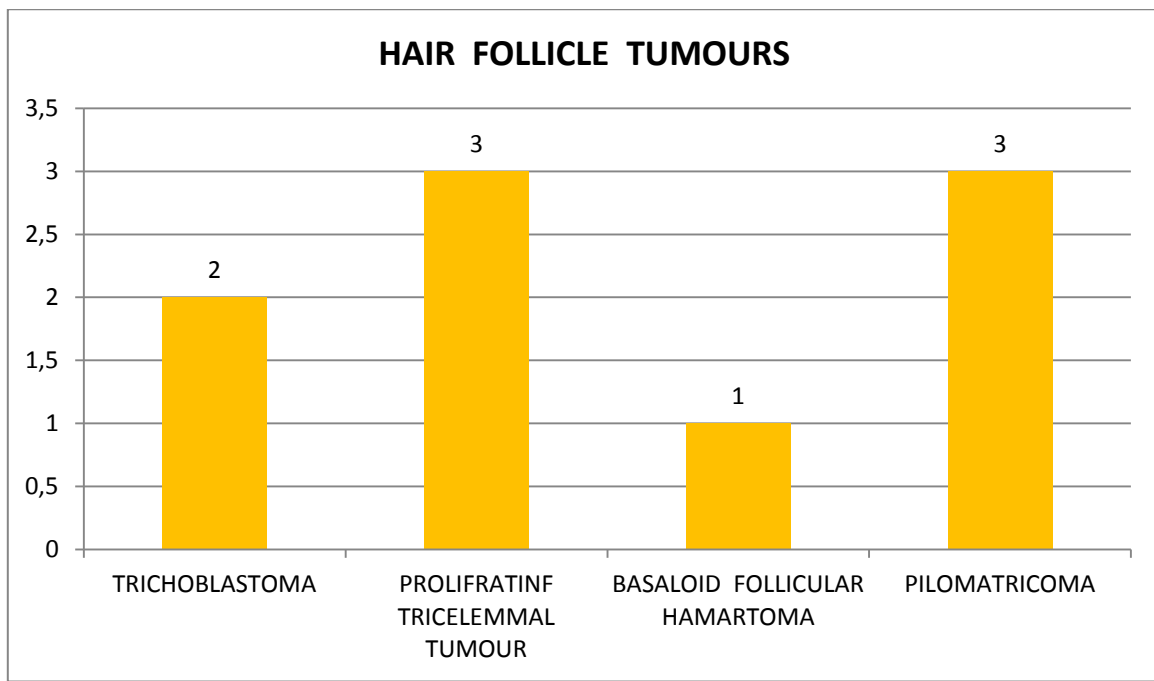**Figure 8:** Papulosquamous disorders
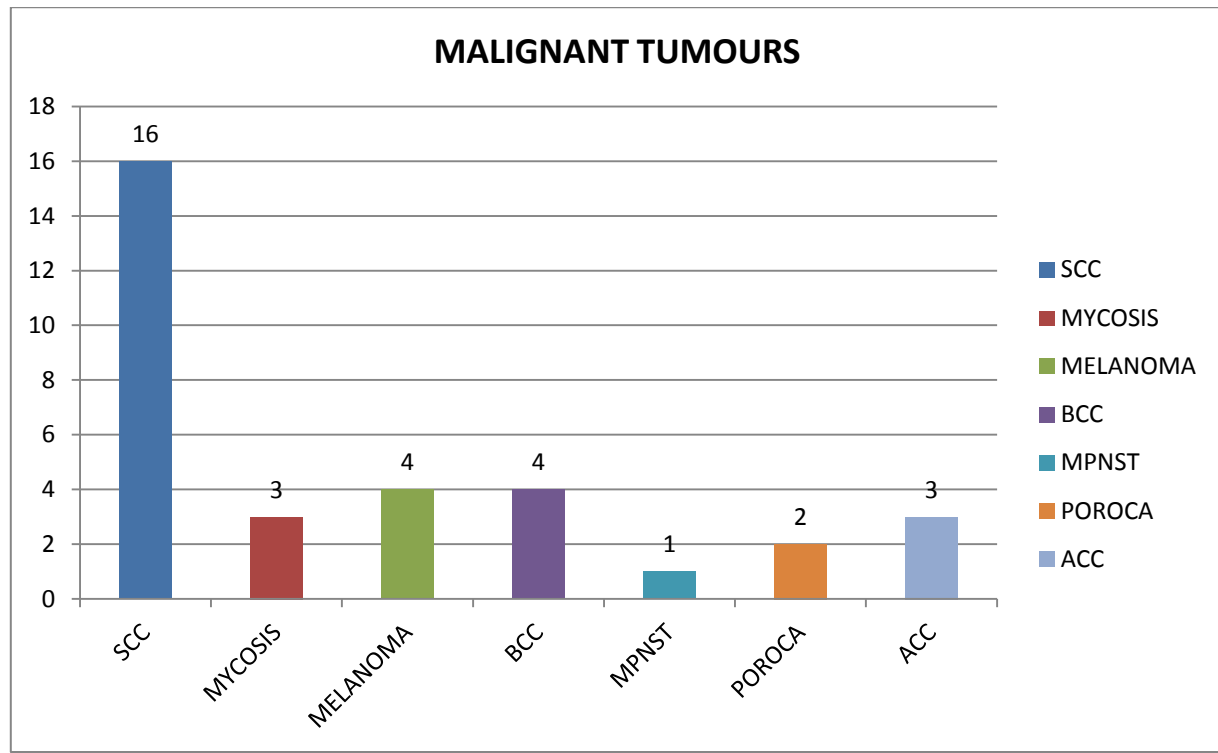

Figure 9: Hair follicle tumours
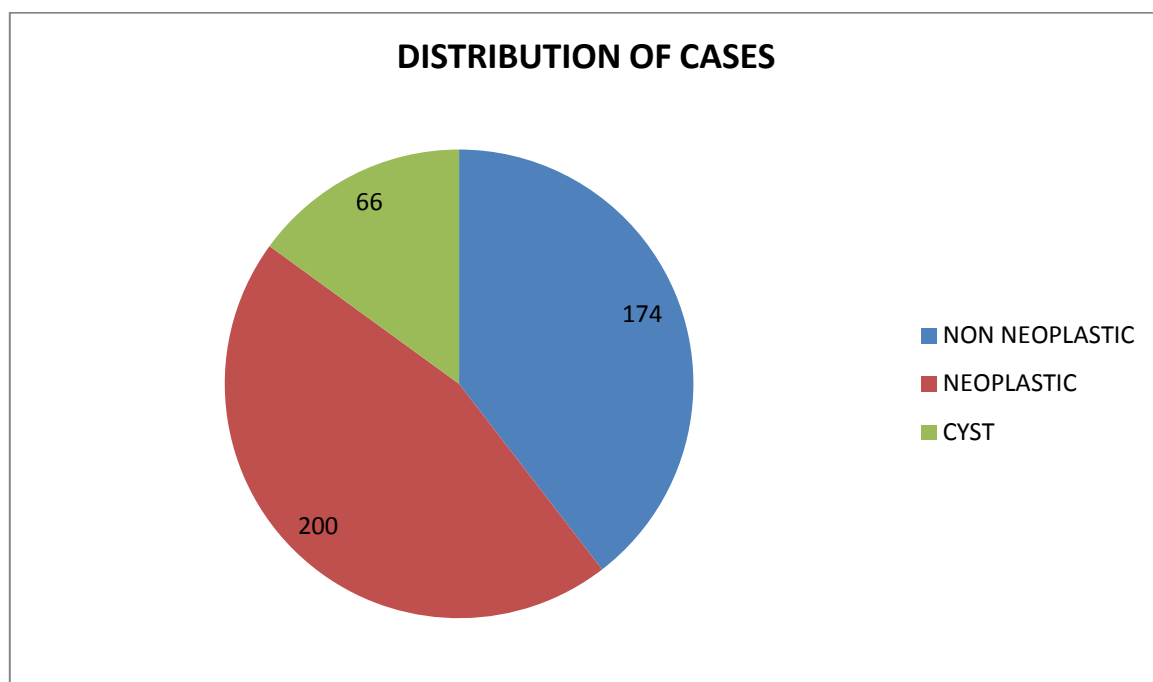
Figure 10: Malignant tumours

Figure 11: Distribution of Cases

Discussion

The prevalence of infectious disease has outstripped non infectious disease in this study. Tumour and tumour like lesions constitute about 36.5% of skin diseases in this study. Neoplastic lesions constitute the major entity in the study by Bezbaruah et al[1] and Abubakar et al[2]. Among epidermal tumours squamous cell carcinoma constitute the majority of tumours followed by fibrohistiocytic lesions, nevus, follicular tumours and eccrine tumours.

Among the papulosquamous diseases, lichen planus and lichenoid dermatitis constitute the most common diseases (3.4%). Among infectious

diseases, Leprosy constitutes the most common disease (8.86%). A few rare disorders like Follicular mucinosis, pseudoxanthoma elasticum and Darrier's disease were included in the study.

Among the benign tumours and tumour like conditions lipomas were found to be the most common followed by vascular tumours. In the Nevus category, a case of Spitz Nevus was included in the study with Intradermal Nevus being most common nevus . 3 cases of Nevus sebaceus of Jadasohn were included in the study.

In this study infectious disease was found to be the most common cause of non neoplastic disease in contrast to study by sonia jain et al[3]. Eczema was the most common disease (24%) followed by fungal infection(13%). Grover et al[4], in his study finds eczema to be the most common disease (39.2%) .Rao et al[5] found fungal infection to be the most common disease (22%) followed by Eczema (32.19%)

Ogun Go et al[6] found spongiotic vesiculo bullous disease to be the most common neoplastic diseases. Among papulosquamous diseases lichen planus and psoriasis was found to be the most common disease.

Prevalence of scabieshas varied from 8.56%-16% [5,7,8,9] in various studies. We have not received a single case of scabies for biopsy. Prevalence of leprosy was reported to be 1.7 % to 11.7 % in various studies. In our study leprosy constituted about 8.86%.

Ram chander et al[10] in his study noted that non infectious vesiculo bullous and bullous papulosquamous disease constituted 28.6% and eczema 84.8%. Among neoplasms, the most common tumour was found to be basal cell carcinoma and the most common benign lesion was melanocytic nevus.

Kar et al[11] noted the infection as the most common cause of skin disease (39.5%) as in our study. He observed in his study that the pattern of skin disease depends not only on environmental factors butal soon occupation, socioeconomic factors. The highest prevalence of

infectious disease in our study was found to be in the 30-40 yrs age group

Das et al[12] found infectious dermatoses to be the most common skin disorder (36.4 %)

Among the neoplastic disorders squamous cell carcinoma (3.6%) was found to be the most common tumour followed by BCC(0.9%)and melanoma(0.9%).Among the cystic lesions epidermoid cyst (8.18 %) was found to be the most common cystic lesion followed by dermoid cyst and pilar cyst.

Conclusion

A wide spectrum of skin diseases were analysed in our study ranging from common eczema to fatal malignant disorders. This study shows the prevalence of various skin disorders biopsied in a tertiary care hospital. since this study shows increase prevalence of infectious disease the study indicates increased emphasis to be exercised in educating the patients about common infectious disease in skin like leprosy as in our study.with leprosy showing increased prevalence among infectious diseases the tertiary care hospital should take immense measures to contain the disease. given the increased incidence of squamous cell carcinoma in this study the prevalence ofchronic skin diseases and chronic ulcers has to be closely followed with immediate and aggressive treatment.

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