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*RESEARCH ARTICLE*

# INTRASCROTAL EXTRATESTICULAR NEUROFIBROMA: A RARE CASE REPORT

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## *Abstract*

Neurofibroma is a benign tumor of the nerve sheath,which is considered to originate from the Schwann cells.Since neural tissues are found throughout the body these tumors can occur in a variety of sites.Intrascrotal extratesticular localization of neurofibromas have been reported extremely rarely in the literature (2).A 77-year-old man admitted to our rural hospital with a twelve year history of gradually enlarging mass and scrotal discomfort in the right hemiscrotum.With a preoperative diagnosis of testicular or paratesticular tumor,exploration done and sent for HPE.The pathological diagnosis of the lesion was Neurofibroma of the paratesticular region.Although a relatively rare disease,intrascrotal extratesticular neurofibroma should be considered in the differential diagnosis of testicular and paratesticular malignant tumors.



## Introduction:-

Neurofibroma is a benign tumor of the nerve sheath,which results from an abnormal overgrowth of Schwann cells[1].Since neural tissues are found throughout the body,these tumors can occur in a variety of sites[2].Although it can be encountered anywhere within the central or peripheral nervous system,especially in the neck,thorax,cranium,retroperitoneum,and flexor surfaces of the extremities,localization within the scrotum is extremely rare[3].

In this report,the clinical,radiological and pathological features of a case is presented and discussed according to the relevant literature.

**CaseReport**

A 77-year-old man admitted to our rural hospital with a twelve year history of gradually enlarging mass and scrotal discomfort in the right scrotum.There was no history of trauma,voiding complaints,or signs and symptoms related to genitourinary disease.

**Physical examination**

A firm,non-tender,mobile,elastic,and nontransilluminating mass was detected in the right hemiscrotum.The size of the lesion was about 20x9 cm and it was separate from the testis.

**Systemic examination**

Was unremarkable.

All laboratory investigations,including testicular tumor markers,were within normal range.

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**Ultrasonography**
Demonstrated right testis shows diffuse,gross enlargement with size of1 4x9 cm heterogenous,hypoechoic solitary mass with minimal vascularity.Ultrasonographic appearance did not rule out whether this lesion was benign or malignt.The other urinary structures were normal.

Testicular exploration with a preoperative diagnosis of testicular tumor was decided and the testis was explored through right inguinoscrotal incision.In the operation a solitary mass extending posteriorly towards the internal inguinal ring of 20x9 cm diameter was observed (Figure1).The lesion was dissected from the surrounding tissues and it was noted that the tumor did not involve the other surrounding structures and testis was small atrophid separated from mass.The final histopathologic diagnosis was neurofibroma.

**Histopathologic examination**
Revealed a tumoral growth which of the fascicles of wavy,spindle,Schwannian cells.Focal hypocellular and degenerated areas and vascular structures with thickened wall were observed in the tumor.

The present case was concordant with neurofibroma on the basis of light microscopic findings.The post operative period was uneventful with no recurrence after 1 month of follow-up.

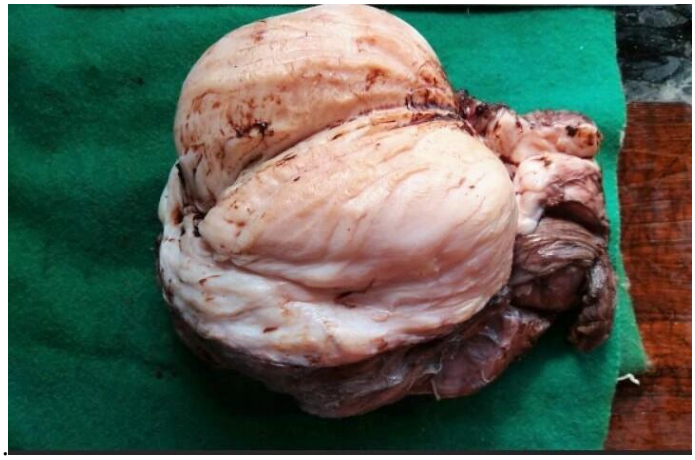

**Figure 1:-** Operative specimen.

## Discussion:-

Benign intrascrotal lesions are common findings in the male population[4].Most of them occur in paratesticular tissue such as epididymis or spermatic cord.Unlike testicular lesions,which are 95% malignant,paratesticular lesions are mostly benign.

Usually,surgical exploration is required to rule out intrascrotal malignant processes[4].

Leiomyomas,lipomas,fibromas,hemangiomas and epidermoid cysts have been described as benign tumors of the scrotum.Solitary neurofibroma within the scrotum,which is unassociated with neurofibromatosis is an extremely rare benign tumor[5].Yamamoto et al.,described the first case of solitary neurofibroma in the scrotum[6].

Neurofibroma can be solitary or multiple and presentation age of the cases ranged between 8 and 77 years[1,5].The presenting complaints are usually scrotal discomfort,painless swelling and hydrocele.The gross appearance of neurofibroma varies a great deal from lesion to lesion[5].As a rule,the tumors are not encapsulated and have a softer consistency.Microscopically,neurofibromas are formed by combined proliferation of all the elements of peripheral nerve axons,Schwann cells,fibroblasts,and perineural cells.Schwanncells are usually the predominant cellular elements in the tumor.These lesions are immune reactive for S-100 protein and surrounded by basement membrane components[1,4].These tumors may originate anatomically from the testis,tunics,and subcutaneous neural tissue.

In the literature,eight solitary neurofibroma cases,which involved the external genitalia in the absence of Von Recklinghausen's disease,were reported previously[2,5].In only one case the tumor was localized intratesticularly,whereas in the others the lesion was located extratesticularly[7].However,the exact origin of the tumor and relation with the intrascrotal components have been somewhat obscure in the reported cases[8,9].In our patient,we also could not determine the exact anatomic structural origin of the tumor.But we recognized that this mass was separate from the testis,vas deferens,and epididymis.In this case,we agree with Issa et al[10].that,the tumor must have originated from the genital branch of the genitofemoral nerve lying posteriorly to the spermatic cord.This nerve innervates cremasteric muscles and distributes branches to the skin of the scrotum and adjacent thigh.A similar report has also been published by Milathianakis et al[2].

Although treatment for most primary tumors has historically been radical inguinal orchidectomy,most benign tumors can now be managed by testis sparing surgery[11].For this reason in neurofibroma,the treatment is surgical excision of tumor[1,3].In cases,where the tumor involves the testicle,orchidectomy is inevitable.Orchidectomy was performed in only two of the reported cases one because of intratesticular localization of the tumor,the other because of joint blood supply with the testicle[7,10].Frozen section microscopic examination should be performed perioperatively to ascertain whether the tumor is benign or malignant[9].The surgical treatment of testicular and paratesticular tumors is performed by inguinal exploration[11].Harding et al.reported that 10.4% of men with testicular and paratesticular tumors underwent a scrotal orchidectomy or had a scrotal incision before an inguinal orchidectomy[12].In their study the authors suggested that scrotal incision is unlikely to affect the risk of loco-regional recurrence.These tumors have an excellent prognosis and they can be cured by complete surgical excision[5,9].

## Conclusion:-

Although an extremely rare disease,intrascrotal extratesticular neurofibroma should be considered in the differential diagnosis of testicular and paratesticular malignant tumors.

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