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General Surgery

A CASE REPORT - SOLITARY FIBROUS TUMOR ON THE POSTERIOR SHOULDER

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ABSTRACT Solitary fibrous tumors (SFT) are mesenchymal in origin, they mainly originate form pleura but can arise in any anatomical site. solitary fibrous tumors are rare entities, especially when found in extrapleural locations.they are mostly benign. Rare giant tumours might have compression symptoms. Preoperative biopsy is not successful in most cases. Treatment of choice is radical excision tumor.

KEYWORDS : solitary fibrous tumor, posterior shoulder.

CASE REPORT

A 71 years old male patient presented with swelling the right back of the shoulder for 5 years (fig-1). With recent onset of pain for 2 months. He had difficulty to sleep straight, difficulty to perform regular activity. Swelling was insidious in onset, gradually increasing in nature, patient noticed the swelling 5 years back and left alone.no history of any trauma. No past medical history. There was no associated symptoms or recent health issue.

On examination, swelling of 10 x 8 x 7 cm below the infrascapular region. Well defined, firm in consistency, non tender, no warmth, with restricted mobility. On sonographic examination large lobulated hypoechoic soft tissue mass lesion is noted in the right back region around 7cm below the scapula, most likely neoplastic lesion. MRI suggested ovolid mass in right postero lateral thoracic wall. Displacement and compression of right latissimus dorsi, which is seen partially draped around the anterior aspect of the lesion. There is no evident of intramuscular extension seen. No evident intra thoracic extension seen (fig-2,3). Incision biopsy done, Histopathology report suggestive of tumour of moderate cellularity, cells arranged in fascicles with many interspersed vascular channels. Cells displayed oval to spindle nucli, bland chromatin, inconspious nucleoli and moderate amount of cytoplasm. Mitosis is indistinct and necrosis is absent. IHC – CD34 positive with vascular channels. No evidence of lymphadenopathy seen. Benign morphology with preserved fatty hilum.

A excision and biopsy performed (fig- 4,5,6). Excision of the whole mass with capsule performed and specimen was submitted for histopathology. On microscopic examination of the specimen shows a neoplasm composed of fibroblastic spindle shaped cells arranged in palisading pattern interspersed with staghorn blood vessels (haemangiopericytoma like vascular pattern). Ropy collagen seen around blood vessels and around spindle shaped cells. Immunohistochemical stain shows CD 34 highlights tumour cells, vascular channels, SMA negative with no evidence of malignancy(Fig-7). Patient post operative period was unevent full and recovered completely without complication.

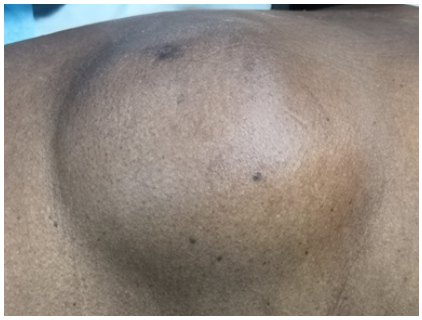

Fig-1 Swelling in the right infra scapular region.

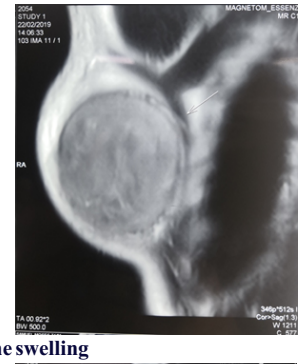

Fig -2 MRI of the swelling

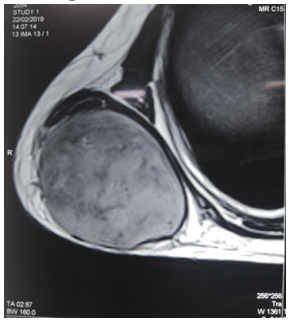

Fig – 3 MRI of the swelling

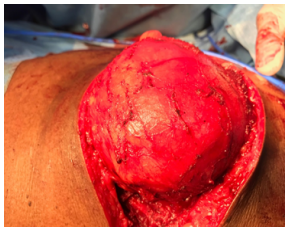

Fig- 4 inter operative picture of the mass

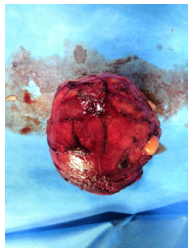

Fig- 5 complete excision of the mass with the capsule

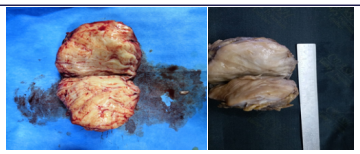

Fig-6 macroscopic view of the cut section of mass, suggesting fibrous tissue

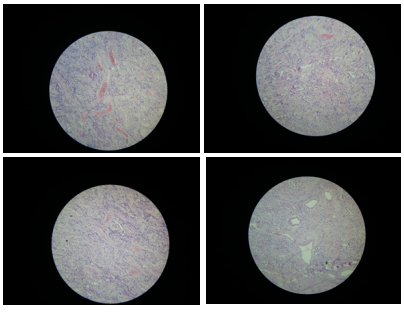

Fig- 7 Microscopic examination – multiple section shows – fibroblastic spindle shaped cells arranged in palisading pattern interspersed with staghorn blood vessels. IHC – CD-34 highlightes tumour cells, SMA negative.

DISCUSSION

An SFT is a rare neoplasm that derives from mesenchymal cells. The differential diagnosis of an SFT in an extremity includes neoplasms such as fibrosarcoma, fibrous histiocytoma, desmoid tumor, dermatofibrosarcoma protuberans, hemangiopericytoma, neurofibroma, and malignant peripheral nerve sheath tumor. A spindle-cell neoplasm of mesenchymal origin, solitary fibrous tumors (SFTs) were first reported in 1931.[1] According to a study done worldwide, approximately 850 cases of SFTs have been reported in the medical literature.[1] A review of *PubMed MEDLINE* involving repots of superficial SFTs (cutaneous/subcutaneous) utilizing search terms (solitary fibrous tumor [Title/abstract]) AND (skin OR subcutaneous OR cutaneous OR superficial) revealed 71 cases having been identified and described in the cutis and subcutis as case reports and/or small case series (Table 1).(2)

Table 1 Review of PubMed MEDLINE literature involving case reports and case series of superficial SFTs

Reference	Year	PMID	Journal	Location	Sex	Age, y	Size, cm	expression	expression	Outcome
Feasel et al[2]	2018	29438169	*The American Journal of Surgical Pathology*	Head, thigh, back, shoulder, upper arm, ankle, toe	F 16: M 7	46 (16-80)	2.9 (1.0-7.0)	17/18 positive	21/22 positive	Disease free
Zhao et al[3]	2018	29325251	*Chinese Journal of Pathology*	Head/neck soft tissue ×3, 2 subcutaneous trunk	Not reported	39 (23-54)	3.1 (0.4-8.0)	Positive	Not reported	Not reported
Pearre et al[4]	2017	29201988	*Gynecologic Oncology Reports*	Vulva	F	64	9	Not reported	Positive	Death from disease at 15 mo
Lee[5]	2016	27352579	*European Journal of Gynaecological Oncology*	Mons pubis	F	57	9	Not reported	Positive	Disease free
Creytens et al[6]	2016	27062638	*Journal of Cutaneous Pathology*	Skin	F	64	3	Positive	Positive	Disease free
Lee et al[7]	2016	25979291	*Journal of Foot and Ankle Surgery*	Ankle	F	69	0.7	Not reported	Positive	Disease free
Yoshimura et al[8]	2016	26967903	*International Journal of Surgical Case Reports*	Thigh	M	31	13	Not reported	Positive	Malignant recurrence at 11 mo; reexcised and disease free at the time of report publication
Lee et al[9]	2015	25140663	*The American Journal of Dermatopathology*	Palm	F	46	1	Not reported	Positive	Disease free
Tenekeci et al[10]	2015	26102546	*Journal of Craniofacial Surgery*	Intraorbital	M	51	9.5	Not reported	Positive	Not reported
Kishimoto et al[11]	2014	25946830	*Nihon Jibiinkoka Gakkai Kaiho*	Intraorbital	M	75	3.8	Not reported	Positive	disease free
Satomi et al[12]	2014	24221815	*Medical Molecular Morphology*	Cheek	M	47	8	Not reported	Positive	Disease free
Soriano-Hernandez et al[13]	2014	25238475	*Cirugia y Cirujanos*	Finger	M	43	2.5	Not reported	Positive	disease free
Rizk et al[14]	2013	23140216	*Journal of Neurosurgery: Pediatrics*	Scalp	M	2	Not reported	Not reported	Positive	Disease free
Terada[15]	2011	21244389	*International Journal of Dermatology*	Shoulder	F	49	8	Not reported	Positive	Disease free
Tsirevelou et al[16]	2010	20868476	*Head & Face Medicine*	Neck	F	74	9	Not reported	Positive	Disease free
Wood et al[17]	2010	20559119	*The American Journal of Dermatopathology*	Thigh ×3, lower extremity ×2, abdomen	F 4: M 2	55 (25-88)	Not reported	Not reported	Positive	Not reported

Tourabi et al[18]	2008	18550249	*Annales de Chirurgie Plastique Esthétique*	Scalp	M	47	8	Not reported	Positive	Disease free
Soldano and Meehan[19]	2008	18212546	*The American Journal of Dermatopathology*	Abdomen, glabella	F	26, 35	1.5	Not reported	Positive	Disease free
Erdag et al[20]	2007	17944724	*Journal of Cutaneous Pathology*	Scalp, toe, cheek ×2, back ×2, lip, forehead, heel, temple	F 2: M 8	43.5 (8-61 mo)	1.2 (0.8-2.5)	Not reported	8/10 positive	Multiple recurrences for the 8-mo-old but now disease free at 8 y; other cases disease free (n = 7) or not reported (n = 2)
Matsushita et al[21]	2005	16471474	*The Journal of Dermatology*	Perioral	M	34	1.5	Not reported	Positive	Disease Free
Yoshida et al[22]	2004	15801268	*The Journal of Dermatology*	Back	F	56	4	Not reported	Positive	Disease free
Hardisson et al[23]	2002	11807468	*Journal of the American Academy of Dermatology*	Cheek	F	56	1.5	Not reported	Positive	Disease free
Ramdial and Madaree[24]	2001	11370264	*Pediatric and Developmental Pathology*	Scalp	F	1	15.5	Not reported	Positive	Disease free
Cowper et al[25]	1999	10380040	*The American Journal of Dermatopathology*	Neck ×2, occiput	F 1: M 2	46, 38, 63	3,3,4	Not reported	Positive	Disease free
Okamura et al[26]	1997	9335244	*The American Journal of Dermatopathology*	Scalp	F	37	Not reported	Not reported	Positive	Disease free

In our patient, he presented the mass in the shoulder, very few has been reported till now. Solitary fibrous tumor most likely preset in women and with the most common location being the head and neck.2Imaging studies like plain radiography and ultrasound are non-specific and not suitable for the differential diagnosis, MRI will be a better choice for the imaging studies. Malignant Solitary Fibtous Tumor are usually demonstrated as hemorrhage, cystic degeneration, and central necrosis on MRI, were as in our patient there was no evidence suggesting malignancy. In order to confirm the diagnosis with Solitary Fibtous Tumor imaging studies dose not definetly confirm the diagnosis. Immunohistochemical analysis is required for the definitive diagnosis to determine from benign vs malignant. Histologically, they consist of a proliferation of capillaries surrounded by masses of spindle-shaped cells. SFT cells are separated by thick bands of collagen. Prominent vascularity showing a hemangiopericytoma, hyalinized vessel walls are seen. Immunohistochemically, SFTs are negative for cytokeratin, S-100 protein, desmin, and alpha-smooth muscle actin, while positive for vimentin and CD34 [1]. In our case, immunohistochemical staining was positive for CD34 and negative for SMA(SMOOTH MUSCLE ACTIN), which satisfies Solitary Fibtous Tumor. Patients with a benign Solitary Fibtous Tumor are usually treated with complete excision. The prognosis is good and the recurrence rate is very low in the case of benign Solitary Fibtous Tumor. If there is evidence suggestive of malignant potential, a further wide resection, a long-term follow-up, and regular MRI will be proposed. In our case ther was no mitotic activity, nuclear pleomorphism, and central necrosis. Therefore, simple excision was sufficient intact tumor capsule is the optimal treatment of benign SFTs [6,7], and there was no evidence of recurrence over the 1 year follow-up period.

CONCLUSION

These tumors are an rare entity, the possibility of Solitary Fibtous Tumor should be kept in mind. Identification of this pattern of SFT is of importance, to avoid misdiagnosis with other more aggressive conditions in soft tissue. During evaluation of any soft tissue mass, examine the appropriate differential markers, with apporatiate imaging studies to arrive at an accurate diagnosis, and administer appropriate treatment, although most patients have a benign clinical course. Local wide resection and careful long-term followup are necessary for patients with solitary fibrous tumor in the extremities.

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