Feitosa RGF, et al., J Clin Dermatol Ther 2021, 7: 094
DOI: 10.24966/CDT-8771/100094

HSOA Journal of Clinical Dermatology and Therapy

Case Report

Giant malignant Chondroid Syringoma: Case Report and Literature Review

Roney Gonçalves Fechine Feitosa*, Flavia Modelli Vianna Waisberg, Marcelo Moraes Trincado, José de Arimatéia Mendes, Regina Hayami Okamoto, An Wan Ching and Lydia Masako Ferreira

Department of Surgery, Division of Plastic Surgery, Escola Paulista de Medicina, Universidade Federal de São Paulo, São Paulo, Brazil

Abstract

Chondroitin syringoma, also known as cutaneous mixed tumor, is a rare type of sweat gland tumor, accounting for 0.01% to 0.1% of all primary tumors of the skin. The malignant form is extremely rare, with 41 cases described so far. It predominates in the trunk and distal extremities and affects women more frequently, with a 3: 2 rate 6,7. Patients may reach the health service with large lesions due to the fact of being slow-growing lesions and have a high rate of recurrence, requiring surgical treatment that may lead to extensive defects making complex reconstructions necessary. We present a case of malignant chondroid syringoma in an 80 years old male patient, with 29 years of evolution and unusual size. A reconstruction was performed with a muscular dorsal flap of the latissimus dorsi with good aesthetic and functional results, with no signs of recurrence after 8 months of follow-up. It is concluded that because it is a late diagnosis neoplasia, the surgical treatment ends up generating expressive defects. There for musculocutaneous should be considered as an option for reconstruction, aiming optimal functional and aesthetic restoration.

Keywords: Latissimus dorsi flap; Malignant chondroid syringoma; Mixed skin tumor; Upper limb reconstruction

Introduction

Chondroid syringoma, also known as cutaneous mixed tumor, is a rare type of sweat gland tumor, accounting for 0.01% to 0.1% of all primary tumors of the skin [1,2]. It is a benign lesion, histological and immunohistochemical similar to the benign mixed tumors of the salivary gland (pleomorphic adenoma) [3].

***Corresponding author:** Roney Gonçalves Fechine Feitosa, Department of Surgery, Division of Plastic Surgery, Escola Paulista de Medicina, Universidade Federal de São Paulo, São Paulo, Brazil, Tel: +55 1155764848; E-mail: dr.an@bol.com.br

Citation: Feitosa RGF, Waisberg FMV, Trincado MM, Mendes JdeA, Okamoto RH, et al. (2021) Giant malignant Chondroid Syringoma: Case Report and Literature Review. J Clin Dermatol Ther 7: 094.

Received: Decmber 27, 2021; **Accepted:** December 31, 2021; **Published:** December 31, 2021

Most of chondroid syringomas are located in the head and neck region (80%), commonly involving the nose and malar region, and reach dimensions smaller than 3cm, although tumors up to 10cm have already been described. They occur normally in the sixth decade of life, predominantly in men, with a ratio of 2: 1 [1,4].

The malignant form is extremely rare, predominant in the trunk and distal extremities, presenting as a firm, subcutaneous nodule of slow growth [5], it affects women more frequently, with a ratio of 3: 2 [1,6] and has only about 40 cases described until now [4,6-8].

Diagnosis is made essentially by histological study, and most tumors have a high recurrence rate. It is also worth mentioning that overlapping areas of benign and malignant tumor may occur in a primarily benign tumor [9].

It frequently presents local and / or regional metastases (about 60%), especially for lymph nodes, lungs and bones; In addition, it has a mortality rate of approximately 25% after a long evolutional course.

First-line treatment is based on the surgical resection of the lesion after performing adequate staging based on imaging studies [1,6,7].

Because these tumors are rare, recurrent and insidious, these patients may reach the health service with lesion of large dimensions. This fact associated with the surgical treatment of excision may lead to the development of extensive defects requiring complex reconstruction [1,10,11]. The involvement of upper limbs is infrequent, but large tumors on this topography requires a type of reconstruction that may be challenging for the plastic surgeon [10]. Thus, the use of the dorsal musculocutaneous flap may be one of the best options to be used [10,12].

We present a case of malignant chondroid syringoma in an 80 years old male patient, with 29 years of evolution and unusual increased dimensions.

Case Report

Male patient, 80 years old, with complaint of right arm lesion with progressive growth lasting for more than 20 years. He presents a surgical history of 6 procedures for tumor`s excision, with recurrence in all episodes, and last resection was performed 7 years earlier. Physical exam showed, in the right deltoid region, lobulated tumor of approximately 20 cm, not adhered to deep planes, with central ulceration of approximately 3 cm. Brachial, radial and ulnar pulses were present and without signs of nerve compression (Figure 1). Magnetic resonance imaging of the right upper limb revealed a massive multiloculate formation of approximately 20 x 10 cm, without neurovascular bundle infiltration. Regarding muscular planes invasion, a well defined cleavage plane between the mass and the triceps` belly in the middle and lower thirds of the mass. On the middle third of the arm there was no clear cleavage plane between the mass and the triceps as well as between the anterior component of the mass and the biceps (Figure 2). Other staging exams (chest, abdomen, and pelvis tomography) showed no signs of systemic involvement. An incisional biopsy with diagnosis of chondroid syringoma was performed [13-17].

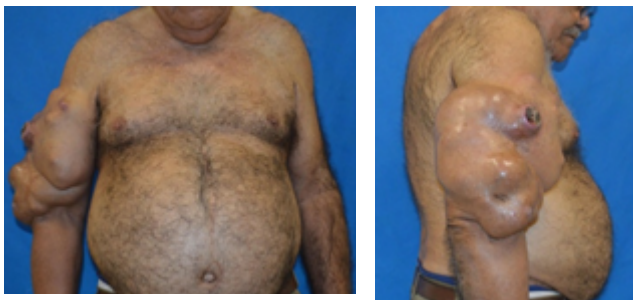

Figure 1: Magnetic resonance imaging of the right upper limb revealed a massive multiloculate formation of approximately 20 x 10 cm, without neurovascular bundle infiltration.

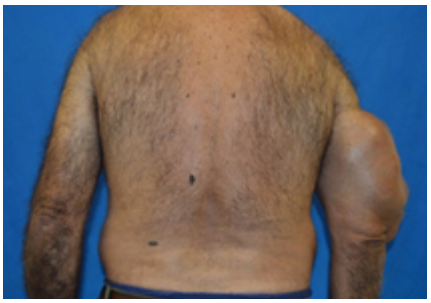

Figure 2: Anterior component of the mass and the biceps.

Local resection of the lesion and immediate reconstruction of the right upper limb with pedicled latissimus dorsi flap associated with split-thickness skin grafting (Figures 3 and 4) was performed. The anatomopathological result was of malignant chondroid syringoma of 26cm, ulcerated, with areas of necrosis and hemorrhage and areas with capsule and adipose tissue invasion. No angiolymphatic and perineural invasion were detected. All margins were free of disease [18-23].

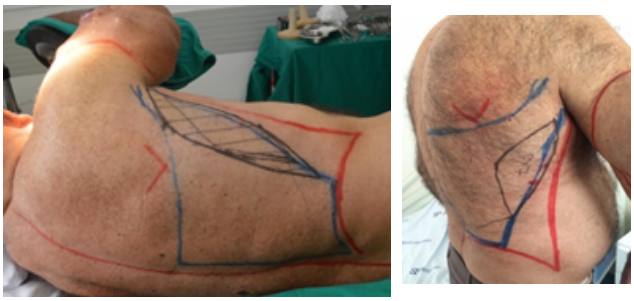

Figure 3: Right upper limb with pedicled latissimus dorsi flap.

The patient progressed satisfactorily, leaving the hospital on the 5th postoperative day. He is currently undergoing outpatient follow-up (Figure 5), with no signs of tumor recurrence after 2 years of surgery.

Discussion

The term chondroid syringoma was first used by Hirsch and Helwing in 1961 to designate a skin tumor previously known as a mixed skin tumor originating from sweat glands. Malignant Chondroid Syringoma is an extremely rare cutaneous tumor, unlike its benign form which is relatively common. According to the MEDLINE database, only 41 cases of malignant form have been reported previously since 1961 [4].

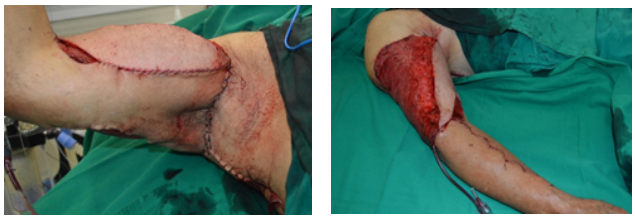

Figure 4: Split-thickness skin grafting.

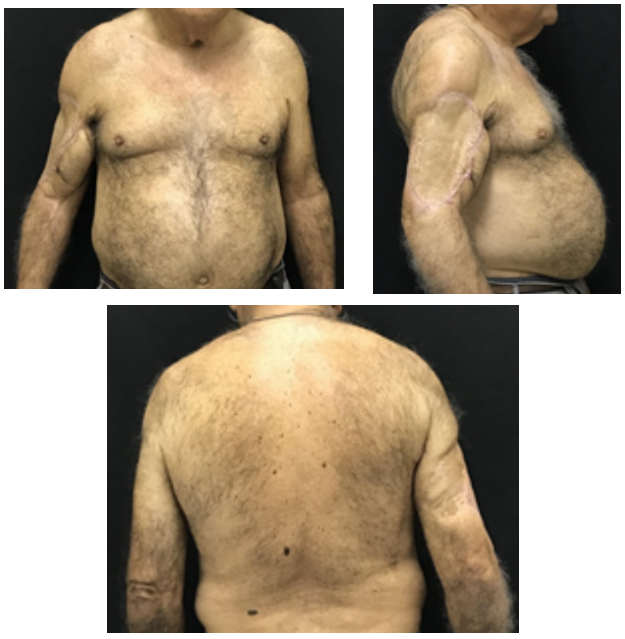

Figure 5: With no signs of tumor recurrence after 2 years of surgery.

Clinically there is no distinction in appearance between the benign and malignant form. Malignant form usually presents as a non-ulcerated nodule. This type of tumor sometimes appears well circumscribed, with cystic appearance, however in other cases it may be adhered to the deep planes.

From 41 cases of malignant chondroid syringoma described so far, 26 occurred in women, and 15 cases in men and with a ratio of 2: 7 in the benign form. The mean age in males was 49.2 years (ranging from 9 months to 70 years of age) (ie distribution by all age groups) and the most commonly affected sites were hands and feet (20 patients), followed By the head (n = 13) and the trunk (n = 8) (Table 1).

The reported case is distinguished by the location in the proximal region of the upper limb and by the large dimensions, with extremely slow evolution in 20 years.

Malignant chondroid syringoma tend to follow an unpredictable clinical course. the reported cases, including ours, more than 34% had local recurrence. It frequently presents local and / or regional metastases (about 63%), with a tendency to invasion of adjacent structures, with cases of bone and CNS invasion. Distant metastases were mainly for lymph nodes, lungs and bones. The mortality rate is approximately 17% after a prolonged evolutive course due to disseminated metastases [9].

	Author	Journal	Year	Age	Gender	location	size (cm)	Local recurrence	Metastasis	Treatment	Evolution
1	Casteleiro Roca, et al. [24]	CIRUGÍA PLÁSTICA IBERO-LATINOAMERICANA	2009	68	F	Left arm	21	no	Left lung 6mm / left axillary lymph node	Extirpation with broad margins and primary closure + chemotherapy (6 cycles with Ifosmamide, Mesna, Adriamycin and Dacarbacin).	DFS 2 years
2	Daniel Chang et al [25]	J Bras Patol Med	2007	54	M	Sternal	0,9	no	no	Extirpation with broad margins and primary closure	DFS 3 years
3	Rajesh Malik, et al. [26]	Indian Dermatol Online J.	2013	61	F	scalp	Great vegetation - pedicle of 8.0	no	Local invasion until dura-mater	Extirpation with margins and primary closure	Death on 2nd PO - meningitis was the most likely cause
4	Arvind Krishnamurthy, et al. [27]	Indian J Nucl Med	2015	41	M	Left ear	3	no	Left cervical lymph node - simultaneous diagnosis	Excision with margins + local flap + left neck dissection	Not avaliable
5	Deniz Tural, et al. [28]	Case Reports in Oncological Medicine	2013	34	F	face	1,5	no	no	Excision with 1,0 cm margins (closure not informed)	DFS 3 year
6	P Shashikala, et al. [29]	Indian J DermatolVenereolLeprol	2004	32	F	scalp	5	no	no	Excision with margins	Loss of follw-up
7	Akira Watarai, et al. [30]	Dermatology Online Journal	2011	46	M	Right foot	3	no	Right Inguinal lymph node 12 years after primary tumor	Excision with margins (t primary tumor) + lymphadenectomy + RT and chemotherapy (metastasis) tegafur, gimeracil, and oteracil potassium	DFS 18 months after metastasis treatment
8	Eiji Ishimura, et al. [31]	Câncer	1983	60	M		7	yes after 3 years (10 x 4cm)	7 years bilateral cervical lymph nodes / 11 years widespread	Tumor excision, local recurrence and cervical lymph nodes	Death after11 years
9	Clara Redono, et al. [32]	Câncer	1982	61	F	Right foot	2,5	yes - 4 previous relapses	Inguinal 7cm, multiple pulmonary nodules,	Chemotherapy vinblastine, vincristine, and Genoxal no response	Palliative treatment and loss of follow-up
10	Vivek Agrawal, et al. [33]	The Journal of Dermatology	1998	40	F	scalp	6	Yes - 3 previous relapses	Bilateral occipital lymph node	Excision with margins + local flap + excision of affected lymph nodes + RT post-op	DFS 25 moths
11	S Nicolaou, et al. [34]	Australasian Radiology	2001	54	M	Right hand	4,5	no	no	Excision with margins	not informed
12	Joa˜o Luiz, et al. [35]	The Journal of Craniofacial Surgery	2012	31	F	scalp (occipital)	Not informed	no	CNS local invasion	ressection	not informed
13	Celia Requena, et al. [36]	Am J Dermatopathol	2013	82	M	glabelar	Not informed	no	iFrontal and ethmoid bone invasion	Extensive resection with local flap (skin + duramater) + radiotherapy	not informed
14	Hayato Takahashi, et al. [37]	Am J Dermatopathol	2004	22	F	halux E	2,2	sim	invasaoossea	amputação com margem de 3cm	SED 20 meses
15	James C Steinmetz, et al. [38]	Journal of the American Academy of Dermatology	1990	59	M	escápula D	4	não	linfonodal mediastinal, disseminada	biópsia excisíonàl + amplia;ao de margens	obito 9 semanas apos a cirurgia
16	Hirsch and Helwig [39]			50	F	face	nãoinformado	não	não		SED 18 meses
17	Sharvill [40]	Am J Dermatopathol	1986	39	F	punho D	2	sim apos 36 meses	não		sem informa;áo apos a recorrência local
18	Rosborough			83	F	braço E	3	nao	linfonodalaxilar		SED 17 meses
19	Matz, et al.			80	F	couroca-beludo	5	sim	linfonodal cervical, disseminada		óbito apos 84 meses
20	Schremmer			55	M	dedo	3	nao	linfonodalaxilar, pulmonar		nãoinformado
21	Hilton, et al. [41]			14	F	bra;o E	3,7	sim	linfonodalaxilar		SED 17 anos
22	Lucas and Nordby			74	F	mao E	nãoinformado	sim	não		SED 24 meses
23	Webb and Stott [42]			52	F	coxa D	10	sim	linfonodal inguinal		SED 18 meses
24	Botha and Kahn [43]			15	F	orelha E	nãoinformado	sim	não		SED 6 anos
25	Dissanayake and Salm [44]			79	F	sacro	8	nao	pulmonar		óbito apos 1 ano
26	Harrist et al. (2 cases) [45]			33	M	pe E	nãoinformado	nao	pulmonar		perdeuseguimento

27				70	M	pe E	8	sim	linfonodal inguinal, ossea, pulmonar		óbito apos 7 anos
28	DeMoraes et al. [46]			23	F	perna D	4	nao	supraclavicular, pulmonar		nãoinformado
29	Shvili and Rothern [40]			44	F	nádegas	5	nao	linfonodal inguinal, disseminada		obito apos 6 meses
30	Hermann, et al. [47]	Skeletal Radiologia	1987	13	F	couroca-beludo	1,4	sim - 3 recidivas	linfonodal cervical, óssea		obito apos 34 meses
31	Clark [48]	Conn Med.	1987	74	F	coxa D	8	nãoinformado	nãoinformado		nãoinformado
32	S Vohra et al [49]	The Foot	1996	39	M	Hilux D	3	nao	nao	amputa;ao parcial do halux	SED 6 meses
33	Consuelo Sa´ Nchez Herreros, et al. [50]	Dermatol Surg	2011	93	F	nariz	2,5	nao	nao	cirurgia micrografia de Mohs + reconstrua;áo com retalho fronta;	SED 48 meses
34	John L Kiely, et al. [51]	Thorax	1997	50	F	mao E	nãoinformado	sim	pulmonar 17 anos apos primario	exerese do primário, sem teto das metástases	nãoinformado
35	Sun TB, et al. [52]	Journal of the Formosan Medical Association	1996	9	M	Pe D		sim 3 vezesem 10 anos	óssea, apos 1 anodisseminada	exegese do tumor, amputa;ao transitai	obito 36 meses apos as primeiras metástases e amputa;ao
36	Barnett MD, et al. [53]	Am J Clin Oncol	2000	34	M	Pe D		sim			
37	Medina Henriquez JA et al. [54]	Scand J PlastReconstr Surg Hand Surg.	2001	37	M	Mao		não	não	amputa;ao + retalho antebraquial reverso	SED 5 anos
38	Menéndez RH et al. [55]	J Neurosurg Spine	2015	63	F				subdural (T9)	resseccao da meta + radioterapia	SED 2 anos
39	Solomonov A, et al. [56]	Respiration	2001	65	M	parede abdominal				ressecção + radioterapia / braquiterapia para meta	boa resposta (?)
40	Kiran Mishra, and Sarla Agarwal [33]	Acta Cytologica	1998	40	F	couroca-beludo	5	nãoinformado	linfonodal cervical	ressecção + linfadenectomia	nãoinformado
41	Hong JJ, et al [57]	Dermatol Surg	1995	40	M	suprapubico	7	sim		exerese	

Table 1: 41 cases of malignant chondroid syringoma.

Diagnosis is made essentially by histological study. The panoramic view shows asymmetry and little circumscription, with small clusters of epithelial neoplasia at a certain distance from the main malignant mass. The tumor has an epithelial and non-epithelial component with a remarkable amount of mucin. The epithelial component is composed of tubular or solid aggregates of polygonal or plasmacytoid cells, ranging from relatively monomorphic to extremely pleomorphic. Variations in the size and shape of neoplastic cell aggregates are common, with large nuclei and abundant mitotic figures, and often some areas of necrosis. The stroma is usually myxoid, but it might present as chondroid and even osteoid [8]. Immunohistochemistry haven't played a import role on differential diagnosis due to a small number of cases studied, with variable immunohistochemical results [8].

The currently recommended treatment is surgical excision with inclusion of tumor free tissue to ensure complete tumor removal [2]. Although several reported cases have presented adjuvant treatment with chemotherapy and radiotherapy, there is no evidence of its benefit [13].

Since most of the cases described are small, circumscribed nodular tumors, the necessity for flap reconstruction is not frequent. We found in the literature cases that required local flaps due to location or dimensions and amputations of distal extremities due to local bone invasion or impossibility of free margins, without any description distal flaps requirement. However, its insidious evolution makes it prone to late diagnosis especially in countries with more difficult access to health services, which leads to complex defects requiring adequate reconstruction.

Considering upper limb reconstruction, the approach requires a stable and durable solution, and the flaps used, especially in oncological surgeries, should be well vascularized, must provide bone coverage, control of infectious processes, resistance to possible complementary treatments and maintenance of function and esthetics of the limb. Free muscular transfers have been recomended for these reconstructions, however, their greatest technical difficulty and complications cannot be forgotten. Among the alternatives, we highlight the latissimus dorsi flap, being a technically simpler option, accessible and with low morbidity of the donor area.

The success rate with the latissimus dorsi flap for diverse reconstructions ranges from 72% to 95%. As a result of its vascularization, various shapes and sizes of this flap might be executed, depending on the location, cause and defect to be repaired. The skin island might reach dimensions up to 35 cm x 12 cm while still maintaining direct closure of the donor area. This flap can still be used in a functional way, restoring the elbow flexion or extension movement [10,12].

Conclusion

The chondroid syringoma of the upper limb usually have a late diagnosis, making extensive lesions a common presentation, which leads to aggressive oncologic surgical treatment, which results in expressive defects. Thus, the use of the latissimus dorsi flap is often used mainly because of the intrinsic characteristics of possibility of good functional and aesthetic restoration.

References

1. Kakitsubata Y, Theodorou SJ, Theodorou DJ, Nakahara M, Yuki Y, et al. (2009) Giant chondroid syringoma presenting as a growing subcutaneous mass in the upper arm: MRI findings with pathologic correlation. Joint Bone Spine 76: 711-714.

2. Sungur N, Uysal A, Gumus M, Kocer U (2003) An Unusual Chondroid Syringoma. Dermatol Surg 29: 977-979.

3. Roca PC, Barro AV, Franco MC, Otero JP, Villar FM (2009) Cirugía Plástica Ibero-Latinoamericana. Cir plást Iberolatinoam 35: 73-78.

4. Askari K, Ghorbani G, Yousefi N, Saadat SMS, Saadat SNS, et al. (2014) Chondroid Syringoma of the Forearm: A Case Report of a Rare Localization. Indian J Dermatol. Set Out 59: 507-509.

5. Chang D, Shaletich C, Zerbini MCN (2007) Siringomacondróide maligno: relato de caso e revisão da literatura. J Bras Patol Med Lab Jun 43: 191-194.

6. Andrade P, Reis JP, Tellechea O (2011) Tumores Sudoríparos - Revisão de 10 anos. Revista SPDV 69: 599-607.

7. Obaidat NA, Alsaad KO, Ghazarian D (2007) Skin adnexal neoplasms-part 2: An approach to tumours of cutaneous sweat glands. J Clin Pathol 60: 145-159.

8. Narasimha A, Kalyani R, Harendra ML, Kumar TN, Suresh A (2013) Supreeth. Giant chondroid syringoma with divergent diferentiation: Cyto-histo-immuno correlation. International Journal of Applied and Basic Medical Research. Jul-Dez 3: 129-131.

9. Franco JPA, Zacaron LH, Lima RB, D'Acri AM, Martins CJ (2013) Case for diagnosis. Chondroid syringoma in an unusual location. An Bras Dermatol 88: 997-999.

10. Mebazaa A, Trabelsi S, Denguezli M, Sriha B, Belajouza C, et al. (2006) Chondroid syringoma of the arm: An unusual localization. Dermatology Online Journal 12: 14.

11. Adkinson JM, Chung KC (2014) Flap Reconstruction of the Elbow and Forearm: A Case-Based Approach. Hand Clin 30: 153-163.

12. Araújo HJ, Batista KT (2008) Reconstrução do membro superior após cirurgia oncológica com retalho fasciomiocutâneo do grande dorsal. Rev Bras Cir Plást 23: 347-349.

13. Yavuzer R, Basterzi Y, Sari A, Bir F (2003) Chondroid syringoma: a diagnosis more frequent than expected. Dermatol Surg 29: 179-181.

14. Andrade P, Reis JP, Tellechea O (2011) Tumores Sudoríparos - Revisão de 10 anos. Revista SPDV 69: 599-607.

15. Narasimha A, Kalyani R, Harendra ML Kumar, TN Suresh, et al. (2013) Giant chondroid syringoma with divergent differentiation: Cyto-histo-immuno correlation. Int J Appl Basic Med Res 3: 129-131.

16. Kakitsubata Y, Theodorou SJ, Theodorou DJ, Nakahara M, Yuki Y, et al. (2009) Giant chondroid syringoma presenting as a growing subcutaneous mass in the upper arm: MRI findings with pathologic correlation. Joint Bone Spine 76: 711-714.

17. Askari K, Ghorbani G, Yousefi N, Saadat SMS, Saadat SNS, Zargari O (2014) Chondroid Syringoma of the Forearm: A Case Report of a Rare Localization. Indian J Dermatol 59: 507-509.

18. Kakitsubata Y, Theodorou SJ, Theodorou DJ, Nakahara M, Yuki Y, et al. (2009) Giant chondroid syringoma presenting as a growing subcutaneous mass in the upper arm: MRI findings with pathologic correlation. Joint Bone Spine 76: 711-714.

19. Sungur N, Uysal A, Gumus M, Kocer U (2003) An Unusual Chondroid Syringoma. Dermatol Surg 29: 977-979.

20. Joshua M. Adkinson, Kevin C (2014) Chung. Flap Reconstruction of the Elbow and Forearm: A Case-Based Approach. Hand Clin 30: 153-163.

21. Yavuzer R, Basterzi Y, Sari A, Bir F, Sezer C (2003) Chondroid syringoma: a diagnosis more frequent than expected. Dermatol Surg 29: 179-181.

22. Mebazaa A, Trabelsi S, Denguezli M, Sriha B, Belajouza C, et al. (2006) Chondroid syringoma of the arm: An unusual localization. Dermatology Online Journal 12: 14.

23. Medina Henriquez JA, Navarro Garcia R, Nagel D, Foucher G (2001) Malignant chondroid syringoma of the hand: a case report. Scand J PlastReconstr Surg Hand Surg 35: 437-439.

24. Roca PC, Barro AV, Franco MC, Otero JP, Villar FM (2009) Siringoma condroide maligno: a propósito de un caso. Cir.plást. Iberolatinoam Jan-Fev-Mar 35: 73-78.

25. Chang D, Shaletich C, Zerbini MCN (2007) Siringomacondróide maligno: relato de caso e revisão da literatura. J Bras Patol Med Lab Jun 43: 191-194.

26. Malik R, Saxena A, Kamath N (2013) A rare case of malignant chondroid syringoma of scalp. Indian Dermatol J 4: 236-238.

27. Krishnamurthy A, Aggarwal N, Deen S, Majhi U, Ramshankar V (2015) Malignant chondroid syringoma of the pinna. Indian J Nucl Med. 30: 334-337.

28. Tural D, Selçukbiricik F, Günver F, Karışmaz A, Serdengecti S (2013) Facial localization of malignant chondroid syringoma: a rare case report. Case Rep Oncol Med 2013: 907980.

29. Shashikala P, Chandrashekhar HR, Sharma S, Suresh KK (2004) Malignant chondroid syringoma. Indian J DermatolVenereolLeprol. 70: 175-176.

30. Watarai A, Amoh Y, Aki R, Takasu H, Katsuoka K (2011) Malignant chondroid syringoma: report of a case with lymph node metastasis 12 years after local excision. Dermatol Online J 17: 5.

31. Ishimura E, Iwamoto H, Kobashi Y, Yamabe H, Ichijima K (1883) Malignantchondroidsyringoma. Report of a case with widespread metastasis and review of pertinent literature. Cancer 52: 1966-1973.

32. Redono C, Rocamora A, Villoria F, Garcia M (1982) Malignant mixed tumor of the skin: Malignant chondroid syringoma. Cancer 49: 1690-1696.

33. Agrawal V, Gupta RL, Kumar S, Mishra K, Agarwal S (1998) Malignant chondroid syringoma. J Dermatol 25: 547-549.

34. Nicolaou S, Dubec JJ, Munk PL, O'Connell JX, Lee MJ (2001) Malignant chondroid syringoma of the skin: Magnetic resonance imaging features. Australasian Radiology 45: 240-243.

35. Araújo JL, de Aguiar GB, do Prado Aguiar U, Mayrink D, et al. (2012) Malignant chondroid syringoma with central nervous system involvement. J Craniofac Surg 23: 514-515.

36. Requena C, Brotons S, Sanmartín O, Llombart B, Traves V, et al. (2013) Malignant chondroid syringoma of the face with bone invasion. Am J Dermatopathol 35: 395-398.

37. Takahashi H, Ishiko A, Kobayashi M, Tanikawa A, Takasu H, et al. (2004) Malignant chondroid syringoma with bone invasion: a case report and review of the literature. Am J Dermatopathol 26: 403-406.

38. Steinmetz JC, Russo BA, Ginsburg RE (1990) Malignant chondroid syringoma with widespread metastasis. J Am Acad Dermatol 22: 845-847.

39. Hirsch P, Helwig EB (1961) Chondroid syringoma. Mixed tumor of skin, salivary gland type. Arch Dermatol 84: 835-847.

40. Shvili D, Rothem A (1986) Fulminant metastasizing chondroid syringoma of the skin. Am J Dermatopathol 8: 321-325.

41. Hilton JM, Blackwell JB (1973) Metastasising chondroid syringoma. J Pathol 109: 167-170.

42. Webb JN, Stott WG (1975) Malignant chondroid syringoma of the thigh. Report of a case with electron microscopy of the tumour. J Pathol 116:43-46.

43. Botha JB, Kahn LB (1978) Aggressive chondroid syringoma. Report of a case in an unusual location and with local recurrence. Arch Dermatol 114: 954-955.

44. Dissanayake RV, Salm R (1980) Sweat-gland carcinomas: prognosis related to histological type. Histopathology 4: 445-466.

45. Harrist TJ, Aretz TH, Mihm Jr MC (1981) Cutaneous malignant mixed tumor. Arch Dermatol 117:. 719-724.

46. de Moraes HP, Herrera GA, Mendonca AM, Estrela RR (1986) Metastatic malignant mixed tumor of the skin. Ultrastructural and immunocytochemical characterization, histogenetic considerations and comparison with benign mixed tumors of skin and salivary glands. Appl Pathol 4: 199-208.

47. Hermann G, Moss D, Norton KI, Guttenberg ME (1987) Case report 450: Skeletal metastases secondary to malignant chondroid syringoma. Skeletal Radiol 16: 657-659.

48. Clark P (1987) Malignant chondroid syringoma. Conn Med 51: 569-572.

49. Vohra S, Bates WA, Baithun SI (1996) A rare adnexal tumor of the hallux: Malignant chondroid syringoma. Foot 6: 175-177.

50. Herreros CS, Flores PB, Murillo EdeE, Recio ED, et al. (2011) A Case of Cutaneous Malignant Mixed Tumor Treated with Mohs Micrographic Surgery, Dermatol Surg 37: 267-270.

51. Kiely JL, Dunne B, McCabe M, McNicholas WT (1997) Malignant chondroid syringoma presenting as multiple pulmonary nodules. Thorax 52: 395-396.

52. Sun TB, Chien HF, Huang SF, Shih TT, Chen MT (1996) Malignant chondroid syringoma. J Formos Med Assoc 95: 575-578.

53. Barnett MD, Wallack MK, Zuretti A, Mesia L, Emery RS, et al. (2000) Recurrent malignant chondroid syringoma of the foot: a case report and review of the literature. Am J Clin Oncol 23: 227-232.

54. Medina Henriquez JA, Navarro Garcia R, Nagel D, Foucher G (2001) Malignant chondroid syringoma of the hand: a case report. Scand J PlastReconstr Surg Hand Surg 35: 437-439.

55. Menéndez RH, Erice SG, Bas CA, Casas G, Dillon HS (2015) Spinal cord compression secondary to metastasis of malignant chondroid syringoma: case report. J Neurosurg Spine 22: 310-313.

56. Solomonov A, Rosenblatt E, Ben-Izhak O, Goralnik L, Yigla M (2001) High-dose-rate endobronchial brachytherapy in endobronchial metastatic malignant chondroid syringoma. Respiration 68: 406-410.

57. Hong JJ, Elmore JF, Drachenberg CI, Jacobs MC, Salazar OM (1995) Role of radiation therapy in the management of malignant chondroid syringoma. Dermatol Surg 21: 781-785.

HERALD

Advances In Industrial Biotechnology | ISSN: 2639-5665

Advances In Microbiology Research | ISSN: 2689-694X

Archives Of Surgery And Surgical Education | ISSN: 2689-3126

Archives Of Urology

Archives Of Zoological Studies | ISSN: 2640-7779

Current Trends Medical And Biological Engineering

International Journal Of Case Reports And Therapeutic Studies | ISSN: 2689-310X

Journal Of Addiction & Addictive Disorders | ISSN: 2578-7276

Journal Of Agronomy & Agricultural Science | ISSN: 2689-8292

Journal Of AIDS Clinical Research & STDs | ISSN: 2572-7370

Journal Of Alcoholism Drug Abuse & Substance Dependence | ISSN: 2572-9594

Journal Of Allergy Disorders & Therapy | ISSN: 2470-749X

Journal Of Alternative Complementary & Integrative Medicine | ISSN: 2470-7562

Journal Of Alzheimers & Neurodegenerative Diseases | ISSN: 2572-9608

Journal Of Anesthesia & Clinical Care | ISSN: 2378-8879

Journal Of Angiology & Vascular Surgery | ISSN: 2572-7397

Journal Of Animal Research & Veterinary Science | ISSN: 2639-3751

Journal Of Aquaculture & Fisheries | ISSN: 2576-5523

Journal Of Atmospheric & Earth Sciences | ISSN: 2689-8780

Journal Of Biotech Research & Biochemistry

Journal Of Brain & Neuroscience Research

Journal Of Cancer Biology & Treatment | ISSN: 2470-7546

Journal Of Cardiology Study & Research | ISSN: 2640-768X

Journal Of Cell Biology & Cell Metabolism | ISSN: 2381-1943

Journal Of Clinical Dermatology & Therapy | ISSN: 2378-8771

Journal Of Clinical Immunology & Immunotherapy | ISSN: 2378-8844

Journal Of Clinical Studies & Medical Case Reports | ISSN: 2378-8801

Journal Of Community Medicine & Public Health Care | ISSN: 2381-1978

Journal Of Cytology & Tissue Biology | ISSN: 2378-9107

Journal Of Dairy Research & Technology | ISSN: 2688-9315

Journal Of Dentistry Oral Health & Cosmesis | ISSN: 2473-6783

Journal Of Diabetes & Metabolic Disorders | ISSN: 2381-201X

Journal Of Emergency Medicine Trauma & Surgical Care | ISSN: 2378-8798

Journal Of Environmental Science Current Research | ISSN: 2643-5020

Journal Of Food Science & Nutrition | ISSN: 2470-1076

Journal Of Forensic Legal & Investigative Sciences | ISSN: 2473-733X

Journal Of Gastroenterology & Hepatology Research | ISSN: 2574-2566

Journal Of Genetics & Genomic Sciences | ISSN: 2574-2485

Journal Of Gerontology & Geriatric Medicine | ISSN: 2381-8662

Journal Of Hematology Blood Transfusion & Disorders | ISSN: 2572-2999

Journal Of Hospice & Palliative Medical Care

Journal Of Human Endocrinology | ISSN: 2572-9640

Journal Of Infectious & Non Infectious Diseases | ISSN: 2381-8654

Journal Of Internal Medicine & Primary Healthcare | ISSN: 2574-2493

Journal Of Light & Laser Current Trends

Journal Of Medicine Study & Research | ISSN: 2639-5657

Journal Of Modern Chemical Sciences

Journal Of Nanotechnology Nanomedicine & Nanobiotechnology | ISSN: 2381-2044

Journal Of Neonatology & Clinical Pediatrics | ISSN: 2378-878X

Journal Of Nephrology & Renal Therapy | ISSN: 2473-7313

Journal Of Non Invasive Vascular Investigation | ISSN: 2572-7400

Journal Of Nuclear Medicine Radiology & Radiation Therapy | ISSN: 2572-7419

Journal Of Obesity & Weight Loss | ISSN: 2473-7372

Journal Of Ophthalmology & Clinical Research | ISSN: 2378-8887

Journal Of Orthopedic Research & Physiotherapy | ISSN: 2381-2052

Journal Of Otolaryngology Head & Neck Surgery | ISSN: 2573-010X

Journal Of Pathology Clinical & Medical Research

Journal Of Pharmacology Pharmaceutics & Pharmacovigilance | ISSN: 2639-5649

Journal Of Physical Medicine Rehabilitation & Disabilities | ISSN: 2381-8670

Journal Of Plant Science Current Research | ISSN: 2639-3743

Journal Of Practical & Professional Nursing | ISSN: 2639-5681

Journal Of Protein Research & Bioinformatics

Journal Of Psychiatry Depression & Anxiety | ISSN: 2573-0150

Journal Of Pulmonary Medicine & Respiratory Research | ISSN: 2573-0177

Journal Of Reproductive Medicine Gynaecology & Obstetrics | ISSN: 2574-2574

Journal Of Stem Cells Research Development & Therapy | ISSN: 2381-2060

Journal Of Surgery Current Trends & Innovations | ISSN: 2578-7284

Journal Of Toxicology Current Research | ISSN: 2639-3735

Journal Of Translational Science And Research

Journal Of Vaccines Research & Vaccination | ISSN: 2573-0193

Journal Of Virology & Antivirals

Sports Medicine And Injury Care Journal | ISSN: 2689-8829

Trends In Anatomy & Physiology | ISSN: 2640-7752

Submit Your Manuscript: https://www.heraldopenaccess.us/submit-manuscript