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7 **Supra-Sternal Notch Tuberculous Abscess in Child**

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16 A 14-year-old student boy was referred to our thoracic surgery department at a university hospital
17 in Rabat, Morocco (November 2019) for a growing swelling of the suprasternal notch observed five
18 weeks prior to his admission to our department (Figure: 1A). The vaccination protocol was complete
19 including bacillus Calmette-Guérin (BCG). Clinical examination showed a well-limited, fluctuating
20 swelling, 10 cm in diameter, located in the suprasternal notch, without movement on swallowing,
21 and without associated cervical or axillary nodes. Blood tests were normal, except for an elevated
22 erythrocyte sedimentation rate (45 mm/h). An ultrasound of the neck revealed a collection of thick
23 fluid independent of the thyroid gland. Neck and thorax Computed tomography (CT) scan shows a
24 fluid collection with densification of anterior and superior cervicothoracic fat.

25

26 Anterior and superior cervicothoracic fat measuring approximately 125 × 71 × 52 mm (Figure 1 B).
27 Fine-needle aspiration and cytology (FNAC) were performed with pus aspiration; With negative
28 microbiologic evaluation and cultures, the patient underwent surgical debridement (Figure 1 C).
29 Histopathologic examination (Figure 1D) showed the presence of a giganto-cellular granuloma with
30 caseous necrosis; mycobacterium tuberculosis culture was negative and the diagnosis of tuberculosis
31 was confirmed by rapid PCR assay.

32

33 The patient received anti-tubercular treatment: 2 months of Rifampicin (R)-Isoniasid (H) -
34 Pyrazinamide (Z) and 4 months of Rifampicin - Isoniasid (2RHZ- 4RH) with a good clinical
35 response.

36

37 Written consent of the patient has been obtained for publication.

38

39 **Comment**

40 Tuberculosis can involve and disseminate all organs; chest wall tuberculosis is a rare extrapulmonary
41 localization and reaching 20-40% of all tuberculosis cases.

42

43 Chest wall tuberculosis is a rare extrapulmonary location and accounts for 1-5% of all
44 musculoskeletal involvement¹. Isolated supra-sternal soft tissue tuberculous cold abscess is
45 exceptional. Differential diagnosis includes thyroid swelling^{2,3} vascular malformations, thyroglossal
46 duct cysts, dermoid cysts, or reactive and infectious lymphadenitis.

47 In the PubMed database Khalil⁴, Vijay² and Asayama³ reported respectively three, one and one case
48 of suprasternal Notch²⁻⁴. it has been more described in immunocompetent individuals but
49 immunosuppression should be researched in all cases . The clinical expression is dominated by
50 swelling, sometimes there is sternal pain².

51

52 Chest CT is the best examination to demonstrate the presence of costal or sternal lysis,
53 pleuropulmonary and mediastinal lesions. Confirmation of TB disease is obtained by bacteriological
54 and/or pathological data.

55 The geneXpert study is a rapid and efficient technique for the diagnosis of tuberculosis compared to
56 microscopy.

57

58 Therapeutic management combines anti-tubercular medical treatment (6 to 12 months) with fine
59 needle aspiration (FNA)^{2, 4} for diagnosis and small swelling but surgical debridement is mandatory
60 to reduce the risk of recurrence ^{1,3} in other cases.

61

62 The resolution is generally good with the combination of anti-bacillary treatment within 6 months
63 and complete surgical debridement can be performed to minimize local complications.

64

65 **Authors' Contribution**

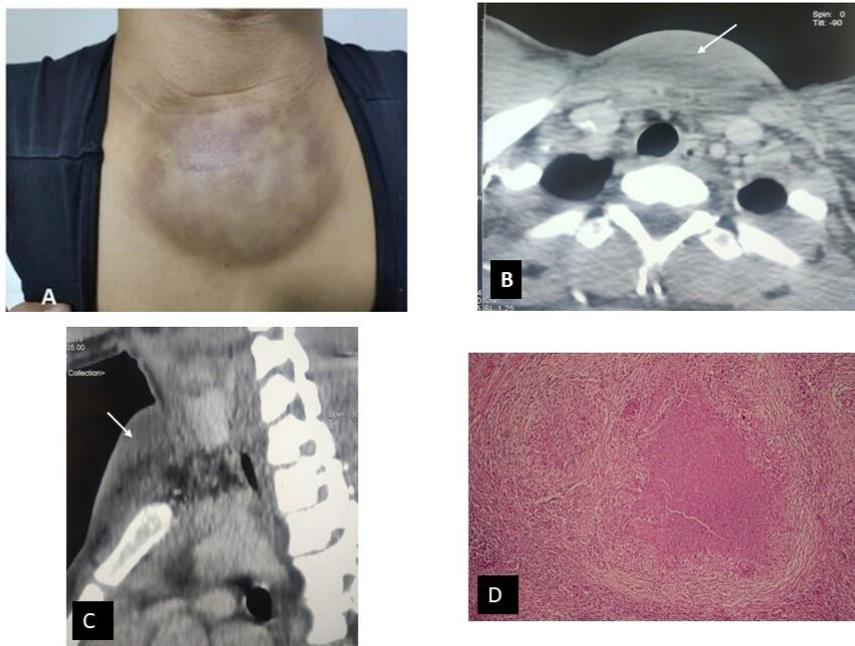
66 MB performed the observation. MEH and MK composed the manuscript. EHK edited the final draft.

67 All authors approved the final version of the manuscript.

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81
82 **Figure 1:** (A): Large fluctuant swelling in the suprasternal notch. (B): CT scan of the neck and
83 chest showing a mass on suprasternal space. (C): Operative view debridement of the mass. (D):
84 Pathological micrograph (HE x 40): Giganto-cellular granuloma with caseous necrosis