JACOBS PUBLISHERS

OPEN ACCESS

Jacobs Journal of Otolaryngology

Retrospective Study

Management of Cervical Lymph Node Tuberculosis (About 250 Cases)

IliasTahiri*[1], Mohamed Moutaa Tatari[1], Laarbi Redalah Abada[1], Sami Rouadi[1], Mohamed Roubal[1], Mohamed Mahtar[1]

[1]*Department of Otorhinolaryngology, face and Neck Surgery, University Hospital Ibn rochd, Casablanca, Morocco*

**Corresponding author:* *Dr. Ilias Tahiri, Department of Otorhinolaryngology, Face and Neck Surgery, University Hospital Ibn rochd, Casablanca, 267, lotissement route de Tanger, Sidi Kacem, Morocco, Tel: 00212671530553; Email: iliastahiri3@gmail.com*

Received: 03-04-2016

Accepted: 03-10-2016

Published: 04-14-2016

Abstract

Introduction

Tuberculosis (TB) is still the biggest health challenge of the countries undergoing development, especially with the increase in the incidence of resistance to TB medical treatment. Among all extra-pulmonary forms of tuberculosis which represent 30-35% of reported cases, lymph node TB is the most frequent, especially cervical that is the predominant location (75%). It can be a manifestation of a systemic disease or primary disease in the neck.

Methods and results

We report the results of a retrospective study of 250 patients with tuberculous cervical lymphadenopathy in ENT department of the University Hospital Ibn Rochd in Casablanca for a period of 7 years from January 2009 to December 2015.

The aim of our study is describe the epidemiological, clinical, radiological and histological characteristics, the various therapeutic modalities of cervical lymph node TB well as the incidence and therapeutic management of cases resistant to medical treatment. We observed that surgical approach by lymphadenectomy followed by medical treatment is the best compared the only medical treatment or surgical.

In our series, the concept of resistance to medical treatment was observed in 54 patients (21.6%), which 24 were treated medically and 30 had surgery followed by medical treatment. These 30 patients were treated surgically, and then tuberculosis treatment was established during 10 to 12 months. The evolution was healing for 20 patients with a follow-up of 8 month to 5 years after the end of treatment.

Discussion

Lymph node TB is a disease of all ages with a predilection for young patients, his diagnosis need a high index of suspicion and confirmed by surgical excision biopsy when non-invasive diagnostics, especially cytology, are not contributing.

The treatment of cervical lymph node tuberculosis remains primarily medical. However, surgery is indicated for diagnostic

purposes and in case of failure of medical treatment. The selection of resistant mutants is a major problem that complicates the management of this disease.

Conclusion

Good adherence to anti TB treatment is a major challenge in order to prevent the development of cases of multi resistant tuberculosis, increasing the frequency of resistances is often the result of errors in care therapeutic. A full surgical procedure in combination with anti-TB drugs remains the treatment of choice for resistant lymph node tuberculosis.

Keywords: Tuberculosis; Cervical Lymphadenopathy; Surgical Procedure

Introduction

Tuberculosis remains a major public health problem in countries undergoing development (Asia and Africa) especially with the increase in the incidence of resistance to TB medical treatment [1, 2].

Cervical lymphadenopathy is the most common head and neck manifestation of extra pulmonary tuberculosis [2]. It can be a manifestation of a systemic disease or primary disease in the neck [3].

Through this study and a review of the literature, we try to study the different diagnostic tools and therapeutic strategies and the role of surgery in the treatment of cervical lymph node tuberculosis resistant to medical treatment.

Methods and Results

This is a retrospective study of 250 patients with cervical lymph node TB admitted in ENT department of university Hospital in Casablanca for a period of 7 years from January 2009 to December 2015.

We have selected all the patients who have cervical lymph node admitted in our Service. 354 were noted. 250 of them are Tuberculosis, 104 are cervical lymph node reacted for others pathologies: 55 are tumor (throat cancer, tongue and thyroid), 25 nodes for lymphoma, 3 for sarcoidosis and 21 nodes with inconclusive histology. So only cervical lymph node TB is selected in this study.

The positive diagnosis of tuberculosis lymph node was either bacteriological or histologic. The medical treatment has been established for all patients who were followed in our department, and hospitalized when a surgery under general anesthesia was indicated. On the epidemiological level, the average age of our patients was 29 years with extremes ranging 11 to 57 years. The age range between 20 and 40 years had represented52% of patients, and the sex ratio was 0,7.

Family history of tuberculosis have been reported by4 patients about 1.1% (3 pulmonary tuberculosis and 1 Cervical lymph node tuberculosis).Personal antecedents of tuberculosis have been reported by 21 patients or 5.8% of cases.

The chief complaint was later cervical swelling with an average time of 7 months consultation. Signs of tuberculous impregnation have been reported in 45% of cases.

Clinically, physical examination objective one lymphadenopathy in 46% of cases and bilateral in 21.3% of cases. Middle jugular node group was predominant (51.2%). The lymphadenopathies were firm in 73% of cases and mobile in 62% of cases. The fistula was observed in 13% of cases.

Location	%
Upper Jugular group	11.9%
Middle jugular group	51. 2%
Lower Jugular group	5.2%
Spinal	20.4%
Submandibular	4.1%
Supraclavicular	7.2%

Figure 1. Tuberculous cervical lymphadenopathy location.

All patients had a chest radiograph which was normal in 97% of cases remaining, however, insufficient to eliminate pulmonary tuberculosis associated.

Cervical ultrasound, performed in 65% of patients had shown a hypoechoic appearance of lymphadenopathy in 60% of cases. All products nodal levy were sent to the same laboratory for bacteriological, histological and molecular techniques if also the financial condition of the patient allows it because of the high cost of this examination. Bacteriology has confirmed the diagnosis in only 9,6 % of cases, histological examination realized in 97.4% of cases permit the diagnosis of lymph node tuberculosis in all cases (72 % by lymph node biopsy, 28% by lymphadenectomy and 0.8 % by fine needle aspirate cytology), and molecular techniques in 3 cases.

All patients had a pre therapeutic balance.

24 patients had received quadruple therapy daily for 9 months basic Rifampicin (5mg / kg / day in adults 10 to 20mg / kg / day in children), isoniazid (10 mg / kg in adults 10 to 20mg / kg / day inchild), Piazoline (25mg / kg / day in adults; 15 a30mg / kg / day in children) and Ethambutol (20mg / kg / day).

Surgical treatment was concerned 168 patients (67.2%). For the other 82 patients (32.8%), treatment was medical. A lymphadenectomy under general anesthesia was practiced in 40 patients (16%) in whom lymphadenopathy was unique. Lymph node dissection was practiced in 43 patients (17.2%), carotid jugular in 18 patients (41.8%), and lymph node dissection selective limited to palpable nodes in 20 patients (46.5%).

Drainage of abscess and curettage of its wall was practiced in 5 patients (11.6%).

No other complications linked to the surgery had been mentioned.

Healing had been obtained in 186 patients (74.4%), with full disappearance of lymphadenopathy and no recurrence. Processing, 10 patients (4%)were lost to follow.

In our series, the concept of resistance to treatment was observed in 54 patients (21.6%), of which 24 were treated medically and 30 had surgery followed by medical treatment. These 30 patients were treated surgically, and then tuberculosis treatment was established during 10 to 12 months. The evolution was healing for 20 patients with a follow-up of 8 month to 5 years after the end of treatment.

Figure 2. Lymphadenopathies fistulized and others locations.

Discussion

Tuberculosis is still the biggest health challenge of the world, particularly in countries undergoing development (Africa and Asia) [1,2]. It is worldwide, one of the leading infectious causes of morbidity and mortality [4]. Morocco remains an endemic country despite all the health ministry's efforts with more than 27000new cases diagnosed per year.

Peripheral lymph node tuberculosis is the most common form of extra pulmonary tuberculosis [1], cervical location is by far the most frequent [5], followed in frequency by mediastinal, axillary, mesenteric, hepatic portal, per hepatic and inguinal lymph nodes [6].

In endemic areas, mycobacterial infection should be systematically sought and considered in the differential diagnosis of a cervical swelling [6]. Typically, primary infections mostly by contamination through the respiratory tract [7].

Lymph node TB is a disease of all ages [8] as shown in our series. His predilection for young patients in this study is consistent with the epidemiology of tuberculosis in countries undergoing development which includes Morocco.

Tuberculous lymphadenopathy is usually unilateral, single and isolated, mostly located in the posterior cervical and less commonly in supraclavicular region [6, 9].The skin overlying the lesion may appear erythematous or violaceous and may be tender to palpation. Fistula is more common in tuberculous lymphadenitis than those caused by atypical mycobacteria [7]. The isolation of Mycobacterium tuberculosis in the affected lymph node confirm the diagnosis, direct examination of lymph node puncture products by conventional microbiological methods, i.e. Ziehl-Neelsen (ZN) staining permits to find BK in only 37.4% of cases in many series, while the positive rate culture is higher varying between 19 and 71% of the cases (2.9), Contrary to the results of the literature, bacteriology has confirmed the diagnosis in only 5 % of cases, because of technical difficulties and inadequate conditions of collection, delivery to the laboratory and conservation of the sampled product.

Because of the low sensitivity of microbiological methods, other tools are used such as fine needle aspirate cytology (FNAC) that has proved valuable in the diagnosis of TB lymphadenitis in countries where mycobacterial infections are endemic and it also provides an easy way for collecting materials for bacteriological examination [10], molecular technique (PCR). In our study, FNAC established the diagnosisin 0.8 percent of cases.

Lymph node biopsy is the "Gold Standard" of the histological diagnosis of lymph node tuberculosis [9], if the index of

suspicion is high and all other tests are negative for TB, tissue of lymph node biopsy or better lymphadenectomy (Diagnostic and therapeutic act) should be sent for histopathological examination to make the final diagnosis [11]. This surgical procedure, often done under local anesthesia, is more sensitive than FNAC because she explored almost the entire ganglion but it has some disadvantages such as the surgical risk, higher cost, possible late diagnosis related to appointments distant operative, fistula, relapse and unsightly scar [9].

Tuberculin skin test provides diagnostic orientation, especially for unvaccinated children, its positive if the diameter of the indurated area is 15 mm or more in vaccinated patients and 10 mm or more in unvaccinated patients [12].

Radiological investigation (CT) may be helpful to obtain information about the anatomic display of the mass or masses, and when another tubercular location of the head and neck is suspected [9, 12].

Treatment for TB disease is codified; it is based on anti-TB drugs combination containing at least two anti-TB line drugs (rifampicin and isoniazid). The treatment is conducted in two phases: an initial phase of two months(quadruple or triple therapy) and a maintenance phase with a variable duration of dual therapy.

The treatment of cervical lymph node tuberculosis remains primarily medical. However, surgery is indicated for diagnostic purposes and in case of failure of medical treatment [4].

We don't found in the literature a consensus on optimal duration of treatment of lymph node tuberculosis. unlike the High Public Health Council in France (CSHPF) and the French language Respiratory Society (SPLF), which held that the period of six months is sufficient [13,14], the different series published and our series show that the majority of practitioners treated lymph node TB for a duration significantly more than 6 months. Additional studies are needed to establish consensus and standardize the processing time of the node TB as is the case with pulmonary tuberculosis.

Tuberculous adenitis is best treated with anti-tuberculosis medication and in addition surgical treatment is more useful in selected cases [6],a strain of TB is called multidrug resistant when at least rifampicin and isoniazid [4]. This selection of resistant mutants is a major problem that complicates the management of this disease,

Conclusion

Tuberculous lymphadenitis is the most common extra pulmonary manifestation of TB, his diagnosis need a high index of suspicion and confirmed by surgical excision biopsy when non-invasive diagnostics, especially cytology, are not contributing.

Good adherence to anti TB treatment is a major challenge in order to prevent the development of cases of multi resistant tuberculosis, increasing the frequency of resistances is often the result of errors in care therapeutic. A full surgical procedure in combination with anti-TB drugs remains the treatment of choice for resistant lymph node tuberculosis. Additional studies are needed to establish consensus and standardize the management of this disease as is the case with pulmonary tuberculosis.

References

1. Jha BC, A Dass A, Nagarkar NM, Gupta R, Singhal S. Cervical tuberculous lymphadenopathy: changing clinical pattern and concepts in management. Postgrad Med J. 2001, 77(905): 185-187.

2. Hajer Ben Brahim, Ikbel Kooli1, Abir Aouam, Adnene Toumi1, Chawki Loussaief et al. Prise en charge diagnostique et thérapeutique de la tuberculose ganglionnaire en Tunisie. Pan African Medical Journal. 2014, 19: 211.

3. Kanlikama M, Mumbuc S, Bayazit Y, Sirikci A. Management strategy of mycobacterial cervical lymphadenitis. J LaryngolOtol. 2000, 114(4): 274-278.

4. W Kermani, R Bouattay, M Ghammem, M Belakhder, M Ben Ali et al. Le traitement de la tuberculose ganglionnaire cervicale (a propos de 361 cas). J.TunORL - n° 28 Juin-Décembre 2012, Page 47.

5. Geldmacher H, Taube C, Kroeger C, Magnussen H, Kirsten DK. Assessment of lymph node tuberculosis in Northen-Germany : a clinical review. Chest. 2002, 121(4):1177-1182.

6. PrasantaRaghab Mohapatra, Ashok Kumar Janmeja. Tuberculous Lymphadenitis. JAPI. 2009, Vol. 57.

7. Rahal A, Abela A, Arcand PH, Quintal MC, Lebel MH et al.Nontuberculous mycobacterial adenitis of the head and neck in children. Laryngoscope. 2001, 111(10): 1791-1796.

8. RasmanéBéogo, Noraogo Emile Birba, Toua Antoine Coulibaly, Ibraïma Traoré, KampadilembaOuoba. Présentations de l'adénite tuberculeuse de la tête et du cou au CHU de Bobo-Dioulasso, Burkina Faso. Pan African Medical Journal. 2013, 15: 131.

9. Marrakchi C, Maaloul I, Lahiani D, Hammami B, Boudawara T et al. Diagnostic de la tuberculose ganglionnaire périphérique en Tunisie. Med Mal Infect. 2010, 40(2): 119-

122.

10. Aljafari AS, Khalil EA, Elsiddig KE, El Hag IA, Ibrahim ME et al. Diagnosis of tuberculous lymphadenitis by FNAC, microbiological methods and PCR: a comparative study. Cytopathology. 2004, 15(1): 44-48.

11. Prasad KC, Sreedharan S, Chakravarthy Y, Prasad SC. Tuberculosis in the head and neck: experience in India. J Laryngol Otol. 2007, 121(10): 979-985.

12. Ammari FF, Bani Hani AH, Ghariebeh KI. Tuberculosis of the lymph glands of the neck: A limited role for surgery. Otolaryngology–Head and Neck Surgery. 2003, 128(4): 576-580.

13. Prévention et prise en charge de la tuberculose en France : Synthèse et recommandations du groupe de travail du Conseii supérieur d'hygiènne publique de France (CSHPF). Rev Mal Respir. 2003, 20(6): 753-754.

14. Recommendations de la Société de Pneumologie de Langue Française (SPLF)pour la prise en charge de la tuberculose en France. Rev Mal Resp. 2004, 21(3): 75.