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Laryngitis of Tubercular Origin: A Review

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Summary

Several epidemiological, public health, bacteriological, clinical, and diagnostic features still make laryngeal tuberculosis a current concern in both developing and industrialized countries. Based on the more relevant literature grounds published the last decades, we write on the present unmet needs in the field, regarding this too often neglected tubercular localization.

Keywords: Laryngitis; Tubercular etiology; Presentation; Differential diagnosis; Literature review

Introduction

Aim of our work is to report and discuss tubercular (TB) laryngitis, on the ground of the main literature evidences appeared in the last century.

During the past century, life expectancy increased progressively, but the resurgence of tuberculosis (TB) accompanied biomedical progress also in the highly industrialized countries, where bone marrow-stem cell-solid organ transplantation became routine procedures, paralleling the increased resort to complex surgery, as well as to advanced anticancer-antimicrobial-immunosuppressive treatments. As a consequence, potentially fragile subjects in their elderly are exposed to a greater risk of developed clinical TB, more frequently caused by the reactivation of a latent infection, or at a lesser extent acquired by respiratory exposure. Furthermore, both diagnostic and therapeutic pitfalls emerged overtime, making more difficult a prompt disease recognition, and/or slowing clinical-microbiological-instrumental disease response to traditional anti-TB treatment [1, 2].

Laryngeal TB acts just as the prototype of an often un-misdignosed complication burdened by late recognition, very

elevated risk of interhuman transmission, and a series of remarkable concerns about its clinical and instrumental differential diagnosis [2-78].

M.W. Yencha et al. pointed out that the global incidence of laryngeal TB [LTB] remained stable over time, in spite of the advances in the field of pulmonary TB [2]. Case series of LTB from the U.S. shows that the large majority of patients presently come from abroad [20]. Another case series from Japan underlines that LTB still occurs, and should be actively searched in all subjects with a presumed pulmonary TB [26].

R. Ray et al. and E. Porrás Alonso et al. pointed out the multifaceted macroscopic-microscopic presentations of LTB, responsible for late diagnosis [3, 28], while A. du Plessis A. et al. and R. Ulloa et al. considered LTB in childhood difficult to suspect but rapidly responsive to the specific treatment [5, 17]. Clinical and instrumental differential diagnosis of LTB versus other laryngeal conditions, mainly cancer and granulomatous disorders, have been discussed by many authors since over 50 years [6, 8-13, 15, 16, 18-21, 33, 36-39, 43, 51, 53, 57, 62, 64, 70, 71, 73, 75, 76]. Obviously

the diagnosis of LTB is highly probable when an already known pulmonary TB is present. But among highly immunocompromised subjects the co-existence of pulmonary opportunism does not help [7]. D. Gallas et al. from France discussed the first case of HIV-associated LTB [77].

Anyway, the need of a prompt diagnosis is crucial, to ensure adequate treatment to index cases, and to protect from TB the relatives, the community and the health care staff [13]. Also in settings with a high TB burden, the true incidence of LTB remains unknown [14]. H.H. Ramadan et al. from Lebanon wrote on 26 cases of LTB found in three decades [16].

L.K. Huon et al. [22], R Agarwal et al. [23], I. Reet et al. [24], S.K. Swain et al. [25], and I.M. Abbassi [30], described extremely rare cases of primary LTB, while from China Y Ai et al. published their experience comparing clinical features of primary versus secondary LTB in even 103 individuals [27]. Also D.C. Kandiloros et al. from Greece failed in retrieving lung involvement in one third of their series of LTB [49], as well as J. Zang et al. from China [68]. Another case of primary LTB was reported by G. El Ayoubi et al. [74].

W.K. Moon et al. [28] and M.D. Kim et al. [62] confirmed the role of CT scan in the diagnosis of LTB, while N. Yin et al resorted to find the causative agents only in stool specimens [39].

A critical airway obstruction complicated a case of LTB reported by A. E Cole et al. [45], while F. Arrivé et al. had to resort to a tracheotomy to manage a LTB [48]. Secondary tonsillar or pharyngeal TB may be associated with LTB, as reported from Turkey [58].

As reminded by H. Laukhaupt from Germany over a century ago [59], the majority of advances in the management of LTB have been already anticipated in the XIX century, including the availability of X-rays, laryngoscopy, surgery, and early anti-TB drugs, as depicted by D. M. Brodowski et al. [63].

In the real world, year 2023, a prolonged hoarseness should alert and suggest an ENT visit even in the absence of epidemiological clues.

Major unmet needs remain those related to clinical-instrumental differential diagnosis [19, 31, 43, 51, 73, 75, 76,78]. Under anti-TB treatment, the larynx was found to recover in 3-8 months (average 18 weeks) by M. Topak et al. [55], but permanent laryngeal damage may last [65]. Nevertheless, a misdiagnosis with epiglottitis [18] may lead to wrong therapy.

Differential diagnosis becomes even more difficult in the immunocompromised host, after radio-chemotherapy for head-neck malignancies, or when cancer remnants are of concern [33, 36, 46, 49, 51, 53, 62, 64, 70-72].

In conclusion, in the year 2023 LTG is still a public health concern in industrialized countries, according to M.B. Zavod [50], G. Horowitz [52], A. Pio [56], and J. E. Shin [73], due to the persisting problems in obtaining a timely identification, and the very high

infectiousness of this TB complication by a public health point of view, too.

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Conflict of Interest

No Conflict of Interest.

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