SKIN

SKINmages

Ulcerations and Lymphadenopathy in a 42 year old Male

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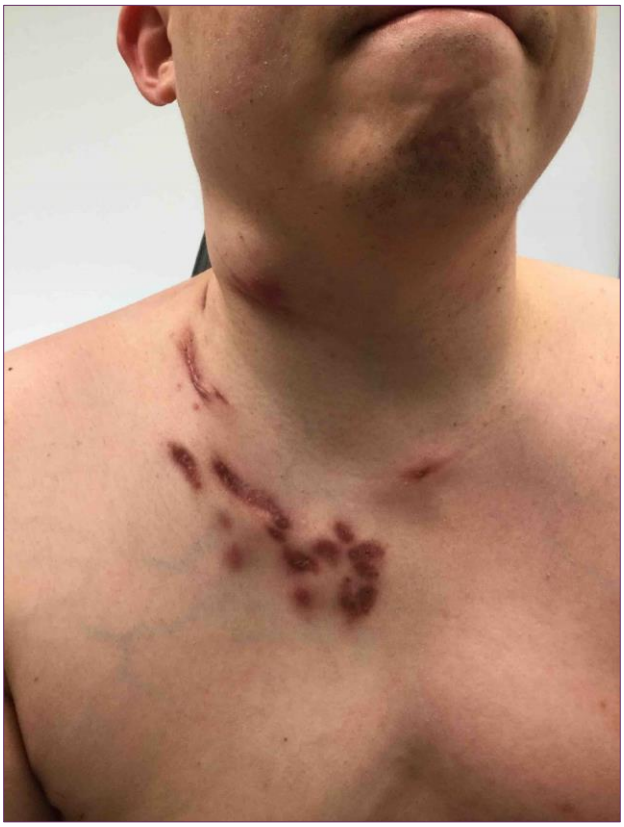

Tuberculosis (TB) disease has remained a major global and public health challenge[1]. TB infection usually occurs in the lungs, but it can involve other body sites as well. This is known as extra-pulmonary TB, which accounts for about a tenth of newly diagnosed TB cases worldwide. About a third of newly diagnosed TB cases occur in the head and neck region (which includes the oropharynx, nasal cavities, ears, neck spaces and lymph nodes). The most common form of head and neck TB is cervical lymphadenopathy, also know as scrofula.

The image presented here is of a 42 year old Male who immigrated from Laos. He presented to the dermatology clinic with a 2-

month history of nodules in neck. After history and physical examination, a skin biopsy was performed which was positive for acid-fast bacilli, confirming the diagnosis of scrofula. While still a rare disease, it is important to be aware of this presentation, as extra-pulmonary TB has increased proportionally with rising total TB cases in industrialized countries from 7.6% in 1962 to 21% in 2006[3].

The diagnosis of scrofula may include several investigative techniques, with clinical suspicion serving to direct the pursuit of diagnostic testing. Imaging may aid clinical suspicion, as scrofula can present with four described characteristics on CT, as well as helpful doppler ultrasound findings consisting of distinct vascular changes[4]. Additionally, it is useful to perform a chest X-ray and abdominal ultrasound to ensure the patient does not have pulmonary TB or TB afflicting a different anatomic region[5]. Diagnostic steps include culturing a sample obtained from an affected lymph node, PCR, or histology with evidence of caseous necrosis within a granuloma[5]. The mainstay of scrofula treatment consists of a series of regimented combinations of antimycobacterial pharmacotherapy, initially selected among 4 guideline-directed options, chosen based on patient age, type, risk factors, and susceptibility[6]. This routinely includes 2 months of 4 drugs, typically consisting of Rifampin, Isoniazid, Pyrazinamide, and Ethambutol, with a subsequent 4- or 7-month period of a dual-drug regimen[6]. However, as multi-drug resistant TB (TB that is nonresponsive to isoniazid and rifampin) has emerged, antibiotics such as fluoroquinolones are also considered, but these cases must be managed by specialists and follow strict guidelines set forth by the World Health Organization (WHO) and the International Union against Tuberculosis and Lung Disease (IU-ATLD)[6]. While the exact role of surgical treatment is yet to be established, surgical excisional intervention may be necessary in cases of large abscesses and scrofula resistant to treatment[5,6].

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References:

1. Phillips L. Infectious disease: TB's revenge. *Nature*. 2013;493(7430):14-16. doi:10.1038/493014a
2. Rieder HL, Snider DE, Cauthen GM. Extrapulmonary tuberculosis in the United States. *Am Rev Respir Dis*. 1990;141(2):347-351. doi:10.1164/ajrccm/141.2.347
3. Peto HM, Pratt RH, Harrington TA, LoBue PA, Armstrong LR. Epidemiology of extrapulmonary tuberculosis in the United States, 1993-2006. *Clin Infect Dis Off Publ Infect Dis Soc Am*. 2009;49(9):1350-1357. doi:10.1086/605559
4. Rodriguez-Takeuchi, Sara Yukie, Martin Eduardo Renjifo, and Francisco José Medina. "Extrapulmonary Tuberculosis: Pathophysiology and Imaging Findings." *Radiographics* 39.7 (2019): 2023–2037. Web.
5. Benjelloun, Amine et al. "Lymph nodes tuberculosis: a retrospective study on clinical and therapeutic features." *The Pan African medical journal* vol. 20 65. 23 Jan. 2015, doi:10.11604/pamj.2015.20.65.5782
6. Blumberg, H. M., Burman, W. J., Chaisson, R. E., Daley, C. L., Etkind, S. C., Friedman, L. N., Fujiwara, P., Grzemska, M., Hopewell, P. C., Iseman, M. D., Jasmer, R. M., Koppaka, V., Menzies, R. I., O'Brien, R. J., Reves, R. R., Reichman, L. B., Simone, P. M., Starke, J. R., Vernon, A. A., & American Thoracic Society, Centers for Disease Control and Prevention and the Infectious Diseases Society (2003). American Thoracic Society/Centers for Disease Control and Prevention/Infectious Diseases Society of America: treatment of tuberculosis. *American journal of respiratory*

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