



Diabetes and Leprosy: Are they Related

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Received: January 21, 2019; **Published:** February 18, 2019

Leprosy and tuberculosis are intracellular infections which are caused by different species of *Mycobacterium*. The *M. leprae* bacilli generally grow inside the Schwann Cells while the *M. tuberculosis* bacteria proliferate inside the macrophage in the patient [1]. Amongst the two diabetes mellitus is recognised as an important risk factor for tuberculosis [2]. So a question comes in mind that whether diabetes mellitus and leprosy are associated in any way. The endemic nature of both the diseases in several countries needs to deal with this very question.

Diabetes mellitus and leprosy both are known to cause neuropathic foot ulcers which are painless through a Schwann Cell-mediated process [1,3]. However, in leprosy patient screening for diabetes is generally not done because leprosy is recognised as a disease of malnutrition. It is needless to emphasise that diabetes (particularly Type II) is associated with overeating and obesity. With this striking difference in the presenting population, it is difficult to imagine that leprosy and diabetes may be associated in any way.

Systematic study in this subject involving a large number of population is yet to be done. However, the titbits of reports that are available in the literature raise concern that it is high time to do a systematic study in the subject. Leprosy and diabetes together manifested in recent history, but a leprosy wound is also confused as a diabetic wound [4,5]. So individual case reports are not of help to answer the question. It provides evidence in both the ways. As early as in 1979 from Jhansi India from a survey of 120 leprosy patients many were found to be diabetic (incidence 14.2% when normal population diabetes incidence 2%) [6]. In 1987 diabetes mellitus is found to be a common medical problem in 846 leprosy patients [7]. A study done in 2012 in Kuwait hints the same [8]. No systematic focused study overruled the possibility of the predisposition of leprosy in a diabetic host. We feel that it is the need of the hour to do such a focused study.

Acknowledgement

DK acknowledges Council of Scientific and Industrial Research, India for providing fellowship (File No: 09/141(0197)/2016-EMR-I).

Bibliography

1. White C and Franco-Paredes C. "Leprosy in the 21st century". *Clinical Microbiology Reviews* 28.1 (2015): 80-94.
2. Banerjee D., et al. "Diabetes and tuberculosis: analysis of a paradox". *Advances in Clinical Chemistry* 53 (2011): 139-153.
3. Goncalves NP, et al. "Schwann cell interactions with axons and microvessels in diabetic neuropathy". *Nature Reviews Neurology* 13.3 (2017): 135-147.
4. Segundo JB., et al. "Cerebral aspergillosis in a patient with leprosy and diabetes: a case report". *BMC Research Notes* 7 (2014): 689.
5. Rawson TM and Anjum V. "Leprosy interpreted as diabetes related complications". *Indian Journal of Leprosy* 86.2 (2014): 65-67.
6. Nigam P, et al. "Diabetic status in leprosy". *Hansenologia Internationalis* 4.1 (1979): 7-14.
7. Singh M., et al. "The associated diseases with leprosy". *Indian Journal of Leprosy* 59.3 (1987): 315-321.
8. Saraya MA., et al. "Diabetic status of patients with leprosy in Kuwait". *Journal of Infection and Public Health* 5.5 (2012): 360-365.

Volume 3 Issue 2 February 2019

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