

Suppurative BCG lymphadenitis in an infant: An uncommon condition

Sir,

Tuberculosis is a major public health issue and a cause of morbidity and mortality in developing countries including India. In the National Immunisation schedule (NIS), Bacillus Calmette Guerin (BCG) vaccination is one of the important measures to decrease serious forms of TB, including miliary or disseminated tuberculosis (TB), especially in pediatric population [1,2]. Here, we present the case of suppurative BCG lymphadenitis in a 5-months-old infant.

A 5-months-old child presented to the hospital with fever for the last 7 days. The patient was given BCG vaccine following which a left axillary lymph node was noted. There was no history of active pulmonary TB in the patient or a history of contact in the family. On examination, lymph node measured approximately 1.5 × 1.5 cm and was firm, mobile and non-tender. The overlying skin was normal. BCG vaccine scar was also noted on the ipsilateral side (left upper arm). The patient had no history of TB or contact with TB in the past. Systemic examination did not reveal any abnormality.

Fine needle aspiration cytology (FNAC) from the left axillary lymph node yielded pus and smears were subsequently stained with Papanicolaou and Giemsa stains. Smears showed extensive necrosis containing many scattered neutrophils, lymphocytes, nuclear debris and few degenerating histiocytes (Figure: A-B, Pap-200X, and C- Giemsa-200X). Ziehl-Neelsen (ZN) stain for acid-fast bacilli (AFB) was positive (AFB+ve) (Fig. 1C- inset). In view of the history of BCG vaccination, the presence of suppurative lymphadenitis, vaccinal scar in the ipsilateral arm, the aforesaid cytomorphological features were consistent with BCG adenitis. The patient was given antibiotics and kept under follow-up for any further complications.

BCG vaccination was first included in the World Health Organisation's "Expanded Programme on Immunisation" in 1974. It is a safe vaccine as it has a very low incidence of serious side effects [1-6].

BCG vaccine is recommended to be given along with oral polio vaccine (OPV) at first contact of a newborn. It is useful for the prevention of serious forms of TB like tubercular meningitis and disseminated TB. Following the intradermal injection at the insertion of the deltoid, the live attenuated strain of BCG gets disseminated to various organs including lymph nodes and may cause asymptomatic lymphadenopathy; usually of no clinical significance and does not require intervention [3-6]. Usual sites of lymph node enlargement are cervical and axillary groups of lymph nodes on the ipsilateral side of BCG scar and in the supraclavicular lymph node.

Usually there are no side effects of BCG vaccination; however, at times few complications may occur. BCG lymphadenitis is one such unusual complication [3-5]. Two types of BCG-lymphadenitis are usually seen, simple and suppurative; maybe necrotizing and associated with epithelioid cell granuloma. The diagnosis of BCG adenitis can be confirmed by biopsy followed by culture or Gene XPERT [2-6].

Treatment is usually not required in patients with simple lymphadenitis and it resolves within a few weeks with only antibiotics. However, the patients should be further monitored for any complications [3-6]. Suppurative lymphadenitis is characterized by the appearance of erythema and other signs of inflammation over the skin overlying lymph nodes. The treatment of BCG adenitis has been controversial. However, in cases where the size of the lymph node is more than 1.5cms and there is tenderness, fluctuation, signs of inflammation or sinus formation, antitubercular drugs are given [2-6]. If no treatment is provided, the suppuration will cause caseous discharge. Systemic complications like soft tissue granulomas, osteomyelitis, and disseminated disease are extremely rare.

The risk factors for suppurative lymphadenitis are the immunocompromised recipient, reactogenic strain and inadvertent injection of a large dose or subcutaneous injection of the vaccine. The children with suppurative lymphadenitis should

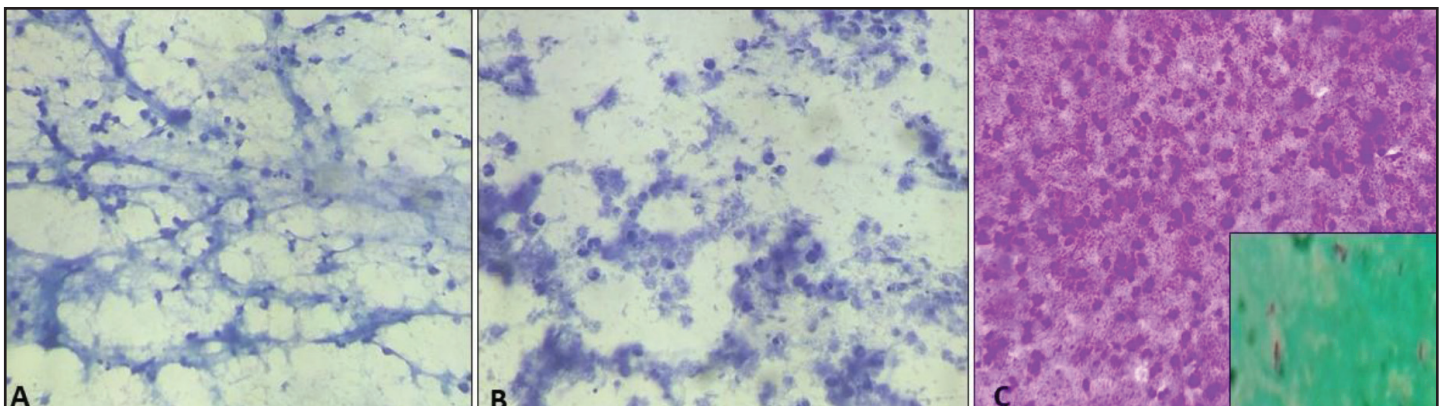


Figure 1 A-C: A-C- Smears showing extensive necrosis containing many scattered neutrophils, lymphocytes, nuclear debris and few degenerating histiocytes [A&B: Pap-100X; C: Giemsa-200X]. ZN stain showing acid-fast bacilli (AFB+ve) [Inset, Figure C].

be screened for any underlying immunodeficiency disorders; as children with AIDS or congenital immunodeficiency, conditions are predisposed for systemic complications of BCG vaccination [4-6].

Awareness of this clinical condition is important, especially in rural areas and in mass camps, for early diagnosis and management of BCG lymphadenitis. In all such cases, pulmonary TB should be ruled out. Other differential diagnoses should also be kept in mind like any infective lymphadenitis, parasitic infestation, etc before making this diagnosis. FNAC is a simple investigative modality for revealing this underlying complication of BCG vaccination.

**Manjari Kishore¹, Vijay Kumar²,
Manju Kaushal³, Sadhna
Marwah³, A S Nigam⁴**

*From ¹Senior Resident, ²Associate Professor, ³Professor, ⁴Consultant
Pathologist, Department of Pathology, Post Graduate
Institute of Medical Education and Research,
Dr. Ram Manohar Lohia Hospital, New Delhi, India*

Correspondence to: Dr. Vijay Kumar, Department
of Pathology, Room No 314, 3rd Floor, OPD Building,
Dr. Ram Manohar Lohia Hospital, Baba Khark
Singh Marg, New Delhi - 110001, Delhi, India.
E-mail: vijaypgil@gmail.com

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