

Respiratory Diphtheria: A Case Report

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Diphtheria is a highly contagious and potentially life threatening bacterial disease caused by *Corynebacterium diphtheria*¹. It is a fatal disease and may cause serious complications if not recognised early and treated promptly.^[2]In spite of extensive immunization coverage, there has been many incidents of drop outs in last decade². Resurgence of diphtheria was reported in some of the countries, mainly due to waning immunity in adults with age, importation of new cases from the endemic regions and probably due to unidentified factors contributing to low incidence of the disease in some regions³. Several factors like inadequate vaccination, poor socio-economic status, ignorance, delayed reporting and non-availability/delayed administration of diphtheria antitoxin (ADS), possible modifying effect of passively-acquired maternal antibodies in young infants, which could suppress the development of an active immunity following early administration of DPT vaccines-all are contributing to high mortality³.

MATERIALS AND METHODS

A 4 year old child presented to our hospital with history of fever since 8 days and diffuse neck swelling since 4 days. The patient was irritable, had bilateral lymphadenopathy and there was pseudomembrane present over both tonsils. Two throat swabs were collected. One for

microscopy – Albert's stain and Gram's stain was done; and the other for culture – Blood agar, Potassium tellurite agar and Loeffler's serum slope. Sugar fermentation tests using Hiss's serum sugar media was done for the isolated colonies.

RESULTS

Gram's stain showed Gram Positive Bacilli in L or V shape. Albert's stain showed green coloured L or V shaped bacilli having bluish-black metachromatic granules. Overnight growth on Blood agar at 37°C showed pearly grey-white colonies. Growth on Potassium tellurite agar at 37°C for 48 hours showed 1-2 mm size shiny black colonies. Overnight growth on Loeffler's serum slope at 37°C showed circular white opaque disc like colonies. On sugar fermentation test, dextrose, galactose and maltose was fermented with production of acid but no gas; and lactose, mannitol



Picture 1. Bull-neck appearance

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and sucrose were not fermented. Urea was not hydrolysed. Nitrate was reduced.

The child was started on Penicillin i.v. and 1 lakh units of Anti Diphtheritic Serum (ADS) was given. But the child did not survive. He died on the 4th day.

CONCLUSION

In spite of extensive immunization coverage, diphtheria is still a major public health problem in our country³. More stringent public health measures like increased immunization coverage, improvement of socio-economic status and easy availability of anti-diphtheritic serum (ADS) – may reduce the incidence and mortality².

A good surveillance system is essential to detect the possible outbreak of diphtheria as early as possible¹.

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