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Indian	ARIPET S	OIPT CAT OU	THERIA: THE PREVENTABLE ASTROPHE-A CASE REPORT FROM THE FH-EASTERN PART OF ASSAM	KEY WORDS: DPT, UIP
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CT	Diphtheria, a toxin mediated disease, characterized by formation of psuedomembrane in the throat predominantly affecting children <15 years of age and is caused by Gram positive pleomorphic cocco-bacillus Coryenebacterium diptheriae. Clinical diagnosis is confirmed by the isolation and identification of <i>Corynebacterium diptheriae</i> by culture. Diphtheria can be treated by administration of diptheria antitoxin and antimicrobial therapy. A trivalent vaccine for diptheriae to the summarized of the province of the summarized of the province			

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diptheriae. Clinical diagnosis is confirmed by the isolation and identification of *Corynebacterium diptheriae* by culture. Diphtheria can be treated by administration of diphtheria antitoxin and antimicrobial therapy. A trivalent vaccine for diphtheria, tetanus ,pertussis (DPT) is recommended in universal immunization program (UIP) for its prevention. A 12year female, presented with fever and dysphagia for a duration of 5 days on 11/02/2020 at ENT opd, Smch. Two throat swabs were collected, one throat swab was subjected to direct microscopy and the other was subjected for bacterial culture. Direct microscopy of Gram stained and Albert stained smears revealed respectively the presence of pleomorphic gram positive bacilli with swollen ends arranged in palisades and angular fashion and green colored bacilli with bluish black granules at their ends. Despite of extensive implementation of UIP of India, there have been numerous reports of re-emergence or persistence from several Indian states which may be attributed to poor immunization coverage, failure to take booster doses ,absence of data regarding the coverage of booster doses of DPT.

INTRODUCTION:-

The term "Diphtheria" is derived from Greek word 'Diphtheria' meaning "leather" owning to characteristics psuedomembrane produced by the organism itself over the site of colonization. It is a toxin mediated potentially lethal disease caused by bacterium Corynebacterium diphtheria which is a Gram positive, non-motile, non-sporing, toxin producing ,pleomorphic cocco-bacillus. It is generally an acute respiratory infection characterized by formation of psuedomembrane in the throat predominantly affecting children <15 years of age. Clinical diagnosis is confirmed by the isolation and identification of Corynebacterium diptheriae by culture. It spreads through close contact or droplet infection from a case or carrier. Carriers are an important source of infection, the ratio being 95 carriers for 5 clinical cases.[1] Diphtheria can be treated by timely administration of diphtheria antitoxin and antimicrobial therapy. A trivalent vaccine for diphtheria, tetanus ,pertussis (DPT) is recommended in universal immunization program (UIP) for its prevention.

AIM:-

The epidemiological burden of the disease is far worse than what is seen on paper, mainly owing to a vast number of cases that remain under reported. We hereby report a confirmed case of diphtheria from this region.

CASE REPORT

A 12 year female, resident of Ashram Road, Silchar, Assam presented to ENT OPD at SMCH on 11/02/2020 with fever for a duration of 5 days and dysphagia which was more for solids than liquids. The patient doesn't give any positive history of contact. Her immunization history was incomplete.

General physical examination revealed that the child was conscious, oriented but looked toxic. She was febrile with a temperature of 103°F, heart rate of 125/min, and respiratory rate of 26/min. No other abnormality was detected on systemic examination. Oropharyngeal examination revealed that the soft palate was congested with grayish-white membranous patches on the medial aspect of right tonsil. Tonsil was hypertrophied (grade III) and uvula, soft palate, anterior pillar, and posterior pharyngeal wall were congested and edematous.Posterior pillar was not visible.

Investigations revealed hemoglobin 12.1g/dL; total leucocyte

count 30,000/mm3; and deranged differential leucocyte count (neutrophils 85%, lymphocytes 6%, monocytes 8%, and eosinophils 0%). Two throat swabs were collected from suspected diphtheria case and one throat swab subjected for Gram stain and Albert stain and the other was inoculated on blood Agar, Chocolate Agar and blood tellurite agar medium and incubated at 37°c aerobically for 48 hours. The colonial growth again subjected to Gram stain and Albert stain. Microscopic examination of Gram stained and Albert stained smears revealed respectively the presence of pleomorphic gram positive bacilli with swollen ends arranged in palisades and angular fashion and green colored bacilli with bluish black granules at their ends.

Raised, gray colonies approximately 2–3mm in size were obtained on chocolate agar after 48 hours of aerobic incubation. Owing to lack of resources, analysis for toxin production could not be performed.

Antimicrobial susceptibility testing was performed on Blood Agar using disc diffusion techniques according to Clinical and Laboratory Standards Institute (CLSI) guidelines. QC was be done as per CLSI guidelines and ATCC strains. Antibiogram revealed the organism was sensitive for Amoxyclav, Ampicillin, Penicillin-G, Ciprofloxacin, Linezolid and was resistant for Cotrimoxazole, Azithromycin and Clindamycin.

The hospital and state health authorities were notified about this case as per Integrated Disease Surveillance Programme (IDSP) guidelines. Appropriate measures were also employed by Hospital Infection Control team in order to prevent a nosocomial outbreak of diphtheria as per Centers for Disease Control, Atlanta, guidelines. [2]

DISCUSSION

Universal immunization program recommending 3 doses, 4 weeks apart followed by 2 booster dose schedule is extensively implemented in India as a preventative strategy. Despite these, there have been numerous reports of reemergence or persistence from several Indian states. During 2001–2015, India reported nearly half of the global diphtheria cases. As per CBHI data, during 2005–2014, India reported 41,672 cases (average: 4167 per year) with 897 deaths (case fatality ratio: 2.2%).[3]. 84% of these cases were contributed by these ten Indian states namely Kerala, Assam, Delhi,

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Gujarat, Haryana, Karnataka, Nagaland, Maharashtra, Rajasthan, and West Bengal.

The key factors in mortality associated with such vaccinepreventable diseases may be attributed to lack of awareness among primary care physicians, delay in clinical suspicion and paucity in availability of (Diphtheria Antitoxin)DAT.The present case focuses the need of having a high index of clinical suspicion for diphtheria and the importance of vigilance in the laboratory, while managing a patient with membranous tonsillitis. National surveillance is an important step toward understanding the burden of diphtheria in India and only few regional studies have been conducted.[4],[5] .Early diagnosis, laboratory support, adequate immunization with emphasis on taking booster doses along with generation of high-quality data on coverage of DPT vaccination as per UIP will go a long way in eliminating this dreaded infectious disease.

CONCLUSION

Poor immunization coverage, failure to take booster doses absence of data regarding the coverage of booster doses of DPT are the likely contributory factors for reemergence of diphtheria. Awareness among primary care physicians, widespread universal immunization coverage, availability of modern microbiological support, rapid early diagnosis and readily availability of DAT are the cardinal steps to the control of diphtheria reemergence.

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