

Meningococemia: A Case Report

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Abstract - Meningococcal meningitis is caused by a gram negative bacterium *Neisseria meningitidis*. Transmission of the organism is by droplet spread or direct contact. The presence of a cutaneous rash has always been recognized as one of the earliest and most reliable clinical signs in meningococemia, a fact that has led clinicians in the past to employ such titles as malignant purpuric fever, petechial fever, black fever and spotted fever for these infections. The purpose of this paper is to discuss the cutaneous manifestations of meningococci infection and the effect of physiotherapy treatment in improving the quality of life in patient with meningococemia.

Key-words: Meningococemia, skin grafting, physiotherapy.

I. INTRODUCTION

Meningococcal meningitis is caused by a gram negative bacterium *Neisseria meningitidis* which may be classified into numerous strains and sub-groups according to the antigenic activity of the lipopolysaccharide capsule and outer membrane. The organism is carried in the nasopharynx of about 10% of the population but the carriage rate for disease strains is usually less than 2%. Transmission of the organism is by droplet spread or direct contact such as kissing. Nasopharyngeal colonisation generally results in the development of antibodies which prevent invasion of the mucosa. As a result, only a very small percentage of individuals exposed to the organism, such as young children who have not developed such antibodies, subsequently develop a clinical infection. Most cases of meningococcal disease, about 60%, therefore occur in infants under 4 years.^[1,2]

The early stages of infection are characterised by fever, joint or generalised body pain, severe headache, nausea and vomiting. As the disease progresses there may be altered consciousness, meningitis and the development of a skin rash which may be followed by adrenal haemorrhage, shock and finally fatal cardiac or renal failure.³

II. CASE DESCRIPTION

Child And History:

A 9-month year female old child had a high fever after which small papules started appearing on both of her lower limb and low back as well as buttocks. General Physician prescribed medication for the same. Through medication her fever subsided and papules reduced in size. She was alright for few days. Later after 15 days, she again had fever and papules started to increase in size, for this they again

went to a general physician who referred her to the tertiary hospital. She was kept in ICU on Mechanical ventilator for 2 weeks. After weaning her off she was on oxygen therapy for 2 days. On October 2015 she had her first febrile convulsion and blisters started to appear on both of her lower limb, low back and buttocks for which she was started with medication. After few days she started developing contractures at hamstring and gastro-soleus of both lower limbs. For the management she got referred to Paediatric Physiotherapy department. Since then she was on regular physiotherapy treatment. She was on conservative physiotherapy management for 1 month. As her wounds were not healing, paediatricians opted surgical intervention for her. Skin grafting was done on November 2015.¹⁰ After surgery she was referred to physiotherapy department. Since then she is on regular physiotherapy treatment.

III. EXAMINATION

Patient was examined by physiotherapist after the reference to the Paediatric physiotherapy department. Following through review of child's medical records, physiotherapy management was given at patient's room and all universal precautions were followed. Child's parents were consulted and taken consent prior to examination and therapy.

On the first day of assessment, we observed that patient was in supine with neck neutral, shoulder elevated, hip flexed and knee extended position. TA, adductors and hamstring were tight on both the sides. We did scar evaluation, where we found that, the scar was present at the posterior aspect of lower limb from buttocks to calf, on upper limb from shoulder to hand and on the pinna of ears bilaterally. At the roof eschar formation was observed.





Scar shape was irregular, with irregular and sloping edges. Floor was covered with pink granulation tissue with nodischarge. The surrounding skin was pigmented.

During her treatment all the universal precaution were followed. She was kept in isolation room where her physiotherapy treatment was given in her parents' presence. As her ranges of motion were restricted, passive range of motion exercises were given for both upper and lower limbs. Hamstrings and Gastro-soleus muscle stretching was done.⁷She was advised for proper positioning as well as change in position periodically.^[8,9] She had surgery on November 2015. Skin grafting was done. Post-surgery, she was referred to paediatric physiotherapy department. She was started with scar tissue mobilization, joint range of motion exercises.^[6,8,9] Elongation of the soft tissues was carried out active as well as passively.^[6,7] The treatment session for 8 weeks twice a day excluding holidays. Therapists have always approached her with play therapy. Parents' participation during therapy helped in involvement and comfort of child during therapy sessions.^[4,5] Ten days' post-surgery patient started crawling. Movement transition strategies were used for improving the child's activities. She was able to sit without support progressing towards supported standing after two months.^[4,5]

IV. DISCUSSION

It is concluded that physiotherapy treatment is helpful in improving the quality of life in patient with meningococemia.

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