



FATAL CERVICAL NECROTIZING FASCIITIS IN A IMMUNOCOMPETENT FEMALE CHILD: A RARE CASE REPORT.

Otorhinolaryngology

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ABSTRACT

Necrotizing fasciitis spreads quickly and aggressively in an infected person. It causes tissue death at the infection site and beyond. It can be deadly if not treated quickly. Because the condition is rare with minimal specific signs, it is often misdiagnosed. In this case report we have discussed fatal cervical necrotizing fasciitis in a immunocompetent female child. A 6-year-old female child was admitted to hospital with complaints of swelling over area below chin extending to which was sudden in onset, rapidly progressive in nature since few hours. There was history of febrile episode but no history of trauma/ insect bite/ tuberculosis / dental caries. Patient was immediately subjected to radiological investigation, and on ultrasonography, a 2.4cmx 2.7cmx2.3cm sized well defined heterochoic lesion was noted in left side of neck. Aspiration performed from most dependent part of the swelling, from which purulent material was obtained. Patient was immediately started on iv antibiotics, Inj. Augmentin and Inj. Metronidazole as per paediatric doses and paediatric opinion taken for the same. Patient had anaemia & experienced arrhythmia and eventually fell into bradycardia. Patient was given 3 cycles cardiopulmonary resuscitations and despite all efforts, patient unfortunately succumbed to disease process.

KEYWORDS

INTRODUCTION:

Necrotizing fasciitis spreads quickly and aggressively in an infected person. It causes tissue death at the infection site and beyond. It can be deadly if not treated quickly. Necrotizing fasciitis is classified according to its microbiology (polymicrobial or monomicrobial), anatomy, and depth of infection. Polymicrobial NF mostly occurs in immunocompromised individuals. Monomicrobial NF is less common and affects healthy individuals who often have a history of trauma (usually minor). Patients with NF can present with symptoms of sepsis, systemic toxicity, or evidence of skin inflammation, with pain that is disproportional to the degree of inflammation. However, these are also present in less serious conditions. Hyperacute cases present with sepsis and quickly progress to multiorgan failure, while subacute cases remain indolent, with festering soft-tissue infection. Because the condition is rare with minimal specific signs, it is often misdiagnosed. If NF is suspected, histology of tissue specimens is necessary. Laboratory and radiologic tests can be useful in deciding which patients require surgical consultation. Once NF is diagnosed, next steps include early wound debridement, excision of nonviable tissue, and wide spectrum cover with intravenous antibiotics and patient was intubated.

Case Description:

A 6-year-old female child was admitted to hospital with complaints of swelling over area below chin extending to which was sudden in onset, rapidly progressive in nature since few hours. There was history of febrile episode but no history of trauma/ insect bite/ tuberculosis / dental caries. Patient had no history of any comorbidities and was immediately rushed to our casualty department for further management. Patient was vitally stable and there was no fever on presentation.



FIG-A

FIG-B

FIG-C

Fig A,B,C:- Photographs of 6 year old female patient on presentation in our casualty

On examination- Swelling extending from submental to left submandibular extending till posterior border of left sternocleidomastoid muscle, region m/a 3x2x2cm, tense, soft in consistency, with local rise of temperature, with necrotic patch of overlying skin and surrounding erythema. No evidence of crepitations or pulsatile vessels were seen.

Patient was immediately subjected to radiological investigation, and on ultrasonography, a 2.4cmx 2.7cmx2.3cm sized well defined heterochoic lesion was noted in left side of neck below mandible s/o infective etiology (submandibular gland enlargement), multiple enlarged lymph nodes are noted in level Ib, II, III, IV on left side. Diffuse subcutaneous changes were noted in bilateral neck and submandibular region. Few subcentimeter sized lymph node was noted on right side of neck. Aspiration performed from most dependent part of the swelling, from which purulent material was obtained.



Fig D:- Aspirate Suggestive Of Purulent Material

Clinical picture was in consistency with Necrotising Fasciitis and a provisional diagnosis thus made. Patient was immediately admitted under our department and routine blood investigations sent. Patient was immediately started on iv antibiotics, Inj. Augmentin and Inj. Metronidazole as per paediatric doses and paediatric opinion taken for the same.

Table 1- Routine blood investigations on time of admission: -

	Hb	TLC	Platelet count	Sr. Creat.	SGPT	SGOT	Bl. Urea	RBSL	Sr Na+	Sr. K+	Sr. Cl-	Urine ketones
9/11/22	11.6gm/dl	10,400/mm ³	1.33 lakhs/mm ³	1.1mg%	59 IU/L	46 IU/L	2.7mg%	119mg%				-ve
10/11/22	10.6gm/dl	21,400/mm ³	50,000/mm ³	2.7mg%	30 IU/L	31 IU/L	132mg%	90 mg%	135 meq/L	4.3 meq/L	105 meq/L	-ve

After pediatric opinion, Patient was started on higher antibiotics, namely -

- Inj piperacillin+ tazobactam- 1600 mg iv tds
- Inj Amikacin 110 mg iv tds

Patient was then posted for incision and drainage under local anaesthesia with iv sedation, around 5cc pus was drained with necrosis of underlying fascia and muscle. Meticulous and careful debridement was done and sample and pus sent for pus culture and sensitivity and histopathological examination. Blood culture was also sent simultaneously. Post operatively, owing to reduced oral intake and NBM status for 4 hours post operatively, patient was started on fluid management, namely

IVFDNS 500ml + Inj KCl 5ml @ 50 ml/hr.

Patient started to become vitally unstable, febrile, temp- 101°F, saturation began to fall rapidly and was between 90-92% on room air. Patient was started on 6l O₂ via face mask and Inj PCM. Patients' serum creatinine was markedly deranged, and blood counts dropped further with marked increase in white blood cell count. Patient showed signs of Acute Kidney Injury (AKI) with thrombocytopenia and respiratory distress and thus referred to paediatric department for further management.

On transferring patient, general condition of patient deteriorated further. Patient was in a state of altered sensorium and patient was suspected to have been in a state of shock. Patient was started on intravenous inotropes immediately and patient was intubated. Patient had anaemia, and PCV was transfused along with platelets and FFP due to low platelet count. Patient eventually developed deranged electrolytes for which correction was given. Patient experienced arrhythmia and eventually fell into bradycardia. Patient was given 3 cycles cardiopulmonary resuscitations and despite all efforts, patient unfortunately succumbed to disease process. The cause of death was given as Septic Shock with septicaemia with disseminated intravascular coagulopathy with necrotising fasciitis.

**FIG:- G****FIG:- H**

FIG G, H:- Post operative photos in paediatric ward of our patient, post intubation

CONCLUSION:-

Necrotising Fasciitis is an uncommon condition in general practice, more so in immunocompetent individuals, but one that risks serious morbidity. Clinicians must practice increased vigilance when treating patients with erythema, pain, and fever in order to not miss this rare but life-threatening condition.