



MELENEY'S GANGRENE: REPORT OF A CASE AND REVIEW OF LITERATURE.

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Abstract:

Meleney's gangrene is one of the group of conditions that are classified and discussed as "necrotising soft tissue infections". Here we report about a 67 year old female, known diabetic, who came with features suggestive of Meleney's gangrene. Extensive debridement was done, empirical iv antibiotics and Low Molecular weight Heparin were given and the patient was cured.

Key words: meleney's gangrene, debridement, antibiotics.

Introduction:

Meleney's gangrene is a form of gangrene of the skin and subcutaneous tissues. It is a type of necrotising fasciitis it is also called progressive bacterial synergistic gangrene. Its severity is believed to be due to synergistic effects of multiple bacteria. It usually manifests following surgery or even minor trauma ^[1]. It had a high mortality rate of 34% as per older studies, which has now come down to 21% ^[2].

Case report:

67-year-old lady presented with complaints of pain and swelling of lower abdomen for 10 days and discharge from right groin for 3 days. There was a history of low-grade fever. There was no previous history of surgery or trauma. She was a diabetic, on treatment. She is known to have residual polio deformities of right upper limb. She was a spinster and post-menopausal. Examination revealed normal vital signs. There was a 3cm diameter darkened skin patch in right side of hypogastric area. The skin over the lower abdomen was reddened, warm and tender and felt indurated. The right labium majus was oedematous (Figure no.1) There was half a cm long slit-like opening in the gap between the medial thigh and right labium majus discharging serous fluid. Vulval area was unhygienic. Per vaginal and per rectal examinations were normal. CBC revealed increased neutrophil count. Blood sugar was elevated moderately. Renal parameters were normal. She was given Inj Piperacilium / tazobactam, Amikacin and metronidazole intravenously in appropriate doses. Regular insulin was started. Emergency debridement was done under spinal anaesthesia within six hours of admission.

After excising the necrotic skin patch, incision was extended upto both anterior superior iliac spines, since necrosis extended to these areas. (Figure no. 2) Necrotic tissues (Figure no. 3) were also excised from labium majus on right side. Thorough wash with saline and betadine was done. The wound was dressed with Oxum® solution. Post operatively regular dressings and minor debridements were done till full granulations developed in ten days. (Figure no.4) IV antibiotics were continued for one-week post operatively. As it is known that small vessel thrombosis is part of the pathophysiological mechanisms of necrosis, we administered LMWH (enoxaparin 0.6mg) s/c B.D for 3 days. Secondary suturing was done on 11th day, after some undermining of edges and mobilisation of flaps. Suction drains were positioned. Patient was discharged 4 days post suturing, with suction drains in-situ. Drains and sutures were removed at appropriate time. There was some necrosis of edges here and there which were excised. They healed by secondary intension. It took 50 days for completed healing and patient to be 'discharged' from our care. (Figure no. 5)



Figure no. 1



Figure no. 2

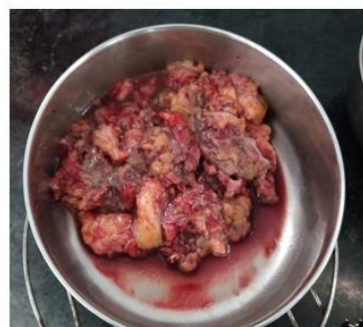


Figure no. 3



Figure no. 4



Figure no. 5

Discussion:

Meleney's gangrene is one of the group of conditions that are classified and discussed as "necrotising soft tissue infections". Fournier's gangrene of scrotum, similar afflictions of perineum, perianal region and lower limbs are included also in this group [3]. Noma or cancrum oris also falls in this category [4]. In these conditions there is an extensively spreading inflammation of subcutaneous soft tissues and skin causing destruction of tissues which will go on to cause septicaemia and possibly death. The infection is caused by poly microbial flora including anaerobes, coliforms, gram positive organisms like Staph aureus, and microaerophilic streptococcus. Predisposing factors include diabetes, alcoholism, obesity, malnourishment, and immune-compromised status [2]. This condition had been described by Hippocrates in 5th century BC. Meleney in 1926 reported this condition. He demonstrated in animal models that micro aerophilic streptococcus and Staphylococcus aureus 'synergistically' caused this condition, though neither of them could cause gangrene, alone [5]. Wilson in the 1950 coined the term "necrotising fasciitis" [3]. The skin lesion is typically described as a central cutaneous necrosis surrounded by a purple zone with an advancing area of redness. The characteristic skin lesions of Meleney's gangrene clinch the diagnosis before any imaging test is performed [6]. Meleney's gangrene affects the skin and subcutaneous tissues but not the deep fascia, though there are some reports that necrosis may go deeper [7]. The infection enters the subcutaneous tissue through any operative wound or a minor trauma. Thrombosis of small vessels results. This leads to necrosis and gangrene [4]. The topography is essentially truncal [8]. Many a time the patient presents late in the

course of the disease or the attending physician is not wary of the seriousness of the infection that may be masked by the normal-appearing skin. Emergency surgery that includes thorough and ruthless debridement is needed. Necrotic tissues may extend in the subcutaneous plane far and wide from apparently gangrenous skin. Culture and sensitivity are not useful ^[9]. Since it is poly-microbial, a combination of antibiotics that can cover aerobes and anaerobes, gram-positive and gram-negative organisms is instituted without waiting for culture reports. They have to be given intravenously and in adequate doses for at least one week ^[9]. Beneficial effect of 300-500 IU heparin/kg/day was suggested from one open study ^[10]. Depending upon the amount of skin loss the raw area may be secondarily sutured or some plastic surgical procedures may be needed.

Conclusion:

Meleney's gangrene had been a dreadful condition with considerable mortality in yesteryears. With the advent of effective antibiotics and early and extensive surgical debridement, recovery is the rule. The actual subcutaneous soft tissue necrosis should not be underestimated when the overlying skin is not much involved. Imaging modalities and culture/sensitivity testing are not much indicated except possibly for epidemiological and documentation purposes. We suggest that more elaborate studies may be needed to confirm the usefulness of heparin and LMWH in this condition. Timely and aggressive surgical approach is the key.

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