COMPLICATION OF FELON CAUSED BY MORGANELLA MORGAGNI; CASE REPORT

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A felon is abscess on the pulp of any digit and it differs from the other abscess in body with local anatomic compartments of pulp. Without appropriate therapy felon can cause widespread necrosis.

Morganella morgagni is found in natural flora of gastrointestinal system and is a rare cause of infection without a predisposing factor. It appears as a cause of nosocomial infection or superinfection on a base of immune suppression. Infection caused by MM is generally a slowly progressive ongoing process with remissions and attacks.

Herein the authors report a felon caused by MM. Patient without an underlying disease or an immunosuppressive condition. Delay in seeking further intervention resulted in necrosis of her distal and middle phalax and extensive surgery indicated.

**SUMMARY**

A felon is abscess on the pulp of any digit and it differs from the other abscesses in body. Fingertip pulp is divided into numerous small compartments by vertical septa that stabilize the pad. Infection occurring within these compartments can lead to abscess formation, edema, and rapid development of increased pressure in a closed space. This increased pressure may compromise blood flow and lead to necrosis of the skin and pulp. Failure of adequate infection treatment can result in serious complications(1,2).

Morganella Morgagni (MM) is a gram negative, facultative, anaerobic non-lactose fermenting microorganism. It is found in natural flora of gastrointestinal system and is a rare cause of infection without a predisposing factor (3-5). It appears as a cause of nosocomial infection or superinfection on a base of immune suppression.

**ÖZET**

Morganella Morgagni Tarafından Meydana Getirilen Felon Komplikasyonu Vaka Sunumu

Felon parmak pulpasının apsesi olup, pulpanın septalardan oluşmasından dolayı vücuttaki diğer apselerin genel davranışlarından ayrılr. Etken evrede antibiyotik tedavisi yeteti olurken ilerleyen vakalarda cerrahi direnaj gerekir.

Gastrointestinal sistem florasının doğal bir üyesi olan morganella morgagni, nadiren tek başına enfeksiyon kaynağı olup genellikle immün baskılanmış kişilerde, hastane enfeksiyonu ya da süperenfeksiyon olarak karşıma çıkar. Morganellanın sebep olduğu enfeksiyon genellikle sessiz, dönem dönem ataklar ve remisyonlarla seyredir.

Makalede yayınlanan olgu morganella enfeksiyonu için herhangi predispozan etkenin bulunmaması, felon’un zamanında ve yeterli tedavi görmemiş için sonucun gereğinden daha geniş cerrahi girişim ile sonuçlanmasını açılarından önem kazanmıştır.

**Anahtar Kelimeler:** Felon, El, Enfeksiyon.
superinfection on a base of immune suppression (3). Infection caused by MM is generally a slowly progressive ongoing process with remissions and attacks.

Herein the authors present a case of complicated felon on distal phalanx caused by MM without a predisposing factor. Inadequate therapy to make way for destructive infection, ends with amputation.

Case

A 77 year old woman was referred to our clinic because of infection in 2nd and 3rd digits of right hand, during her treatment due to dyspnea secondary to kyphosis in Department of Respiratory Disease. From the history, she had hyperemia and induration in the distal phalanx and nail bed of 2nd and 3rd fingers of right hand, which begun 3 months ago. Her complaints were increased gradually and she was given an oral antibiotic by a clinical practitioner and was offered local wound care. By the 10th day of treatment nail of second digit had been fallen and a purulent drainage from the nail bed was begun. By the 10th day of drainage since a new nail was begun to grow the patient was stopped oral antibiotics. One month later the infection was recurred with necrotic changes in distal phalanxes. She was offered three phased bone scintigrapy with a diagnosis of osteomyelitis in an orthopaedic clinic, but she was hospitalized because of dyspnea secondary to kyphosis and was consulted to our clinic.

Physical examination of the patient revealed severe infection signs of phalanx 2nd digit of right hand. Pulpa and nail bed was sensitive. Digit had edema and indurations, with areas of necrosis and purulent drainage. Soft tissue had crepitation on palpation (Fig.1,2). Infection signs of 3rd finger was milder with hyperemia but without edema and drainage. Hand X rays revealed patchy lytic and destructive lesions of distal phalanx of second digit. One day later 2nd finger of right hand was operated with the diagnosis of complicated felon. During the operation necrotic tissues were debrided, distal and a part of middle phalanx was found to be so destructed that could not be preserved (Fig. 3). Thus the phalanxes was

Figure legend 1: Figure shows severe infection and patchy necrosis in distal phalanx of second digit. Dorsal view.

Figure legend 2: Volar view of digit.
amputated from the non destructive bone, permitting free drainage

Microbiological investigations revealed MM infection of 2nd finger and the microorganism was sensitive to quinolones. Patient was given oral antibiotics and non steroidal anti-inflammatory agents for 15 days. 30 days after the operation patient had no signs and symptoms of infection and wound was healed totally (Fig. 4). At the time after one year from the surgery no sign of the recurrence is observed.

Discussion

A felon is a subcutaneous abscess of the distal pulp of a finger or thumb. It differs from other types of subcutaneous abscess in that multiple vertical fibrous trabeculae or septa divide the pulp into several small compartments (1). The expanding abscess break down the septa and can extend toward the phalanx and produce osteomyelitis, or it can extend toward the skin and cause necrosis (1,2,6).

Staphylococcus Aureus is the most common cause of felon but gram negative organisms have been reported in immunosuppressed patients (7). In early stages, infection may resolve spontaneously particularly with antibiotics. Later, felon requires repeat drainage and debridements as well as intravenous antibiotics over an extended period of complete resolution (8). Most common complication is osteomyelitis involving the diaphysis of distal phalanx and most serious complication is acute tenosynovitis which may result from contagious spread of infection.

MM was first isolated by Morgan in 1906 from cultures taken from children who had diarrhea (3). It is a gram negative, facultative, anaerobic, non-lactose fermenting rod belonging to the family enterobacteriaceae (3,5,9). It is found in the flora of gastrointestinal system. It's rarely the primary invader but produce disease as superinfection in areas previous infected by other organisms.

The urinary tract especially in old catheterized patients is most commonly involved but the bacteria may lead sepsis, pneumonia, wound infections, meningitis and some fatal
infections (3-5). MM may cause culture positive septic arthritis, leading few articular or systemic symptoms or signs of infection and an indolent course of disease with period of remissions and exacerbations of clinical manifestations (3).

Infection is generally the disease of the immunosuppressive patients, patients with long term urinary catheterization, diabetes, rheumatoid arthritis, systemic lupus erytematosus, alcoholism, corticosteroid treatment, intravenous medications, surgically intervention and malignancy (3,4,10).

To the best of our knowledge MM infection of soft tissue and bone without a predisposing factor is not reported before.

Herein, the authors report a felon caused by MM, patient without an underlying disease or an immunosuppressive condition. Remissions and exacerbation periods in the history is consistent with the general behavior of bacteria. This microorganism has a good response to antibiotic treatment and does not cause necrosis general manner. Since the clinical behavior of bacteria is remissions and attacks long term appropriate antibiotic treatment should involve both the acute attack and the remission period till the organism is eradicated.

Felon generally require antibiotic with or without drainage. Authors think to come to a conclusion of the therapy; delay in seeking further intervention resulted in necrosis of the patient distal and middle phalanx. If abscesses are not drained and pressure is allowed to build up necrosis is unavoidable. Effective antibiotic treatment and drainage is mandatory to prevent complications of felon and avoid extensive surgery. Certain patients with finger infection should be referred to a hand surgeon or orthopaedic surgeon.
REFERENCES
