



Case Report

J. Exp. Clin. Med., 2019; 36(1): 31-33
doi: 10.5835/jecm.omu.36.01.006



Massive carbuncle in a patient with diabetes mellitus

Gokhan Sahin^{a*}, Fatma Aydın^a, Yusuf Kelleci^a, Mehmet Tayyar Canturk^b

^a Department of Dermatology, Faculty of Medicine, Ondokuz Mayıs University, Samsun, Turkey

^b Department of Dermatology, Faculty of Medicine, Okan University, İstanbul, Turkey

ARTICLE INFO

ABSTRACT

Article History

Received 09 / 01 / 2018
Accepted 17 / 04 / 2018
Online Published Date 04 / 12 / 2019

Carbuncle is a skin infection with deep subcutaneous tissue involvement and can lead to sepsis and death if not properly treated. Wound care, control of comorbid diseases that affecting the immunity are as effective as antibiotic treatment in the treatment of the carbuncle. Here, a case of carbuncle of the gluteal area is reported in a 75-year-old woman with concomitant diabetes and chronic renal failure.

* Correspondence to:

Gökhan Şahin
Department of Dermatology,
Faculty of Medicine,
Ondokuz Mayıs University,
Samsun, Turkey
e-mail: sgokhan55@hotmail.com

Keywords:

Chronic renal failure
Diabetes mellitus
Massive carbuncle
Treatment

© 2019 OMU

1. Introduction

A carbuncle is the collection of furuncles that affects deeper subcutaneous tissue with purulent drainage from multiple follicles (Sommer et al., 2018; Stevens et al., 2014). It manifests as painful, tender, fluctuant, erythematous nodules surrounded by a rim of erythematous swelling. A carbuncle may result with bacteremia that can cause life threatening infections like endocarditis and osteomyelitis. Diabetes Mellitus (DM), immunologic abnormalities, trauma and intravenous drug use are important risk factors but it can also develop in healthy individuals (Gira et al., 2004; Kars et al., 2005). Most commonly involved areas are nape of neck, face, axillae and buttocks. Although *S.*

aureus alone comprises up to 75% of the cases, multiple organisms can be isolated in perioral and anogenital infections (Summanen et al., 1995). Diagnosis is based primarily on clinical appearance, bacterial cultures and gram stains of the lesion. Although simple furuncles may heal only with warm compresses, a carbuncle often requires systemic antibiotic therapy, incision and drainage.

2. Case

A 75-year-old female was admitted with the complaint of red, tender mass with fluid leakage on her left perianal gluteal region accompanied by fever. Dermatological examination showed approximately 15cmx15cm sized

tender, fluctuating mass with multiple suppurating papules on erythematous base almost completely covering the left gluteal area (Fig. 1). She has DM and chronic renal insufficiency. Her initial laboratory tests revealed values of creatinine: 2.64 mg/dL, WBC:11900/uL, ESR:67 mm/hr, CRP:0.97 mg/dl, glucose 244 mg/dl. Three punch biopsies were taken from the lesion for bacterial culture, gram stain and histopathological examination. Empirical ampicillin-sulbactam was started 1 gr three times daily. Incision and drainage were also performed. A magistral drug containing acetate aluminum, lanoline anhydrite, distilled water and petrolatum jelly was applied for daily dressing of exposed wound surface. Polymorphonuclear leukocyte rich mixed type necrotizing inflammation starting from surface and extending into deeper subcutaneous tissue with fistula formation were seen in histopathological examination. Since the bacterial culture revealed *S. aureus* proliferation susceptibility to oxacillin, we gave ampicillin sulbactam therapy for three weeks as the lesion regressed (Fig. 2). One month later, patient had no complaints and dermatological examination was unremarkable with approximately 4x2 cm sized scar tissue (Fig. 3).



Fig. 1. Approximately 15cmx15cm sized tender, fluctuating mass with multiple suppurating papules on erythematous base almost completely covering the left gluteal area.



Fig. 2. The lesion after ampicillin sulbactam therapy for three weeks.



Fig. 3. One month later, dermatological examination was unremarkable with approximately 4x2 cm sized scar tissue.

3. Discussion

In this case report, a gluteal carbuncle case is presented in a patient with both chronic renal failure and uncontrolled diabetes. One of the three punch biopsies taken was gram-stained for rapid diagnosis, followed by antibiotherapy; tissue culture was performed with the second one, and antibiotherapy was planned according to the (culture) result. Antibiotic treatment continued because of the oxacillin sensitive *S. aureus* growth. The third tissue was sent to pathology, and the tissue was examined for diseases found in the differential diagnosis, such as pyoderma gangrenosum, which could be escaped the attention. During this treatment, the patient received IV fluids for chronic renal failure and his blood glucose levels were tightly controlled. Although incision and drainage have been suggested in some publications in the presence of immunosuppression, the presence of comorbidities and rapid progression of cellulite, in this case, we did not prefer these and have observed that drainage has been performed with the help of dressing to the lesions (Chou et al., 2015). With the control of comorbid diseases, effective wound care, and systemic antibiotic treatment, the patient's lesion was regressed and an obvious improvement in her general condition was observed.

In conclusion, a carbuncle is a significant skin infection that can reach massive size in diabetic and immune compromised patients. When followed incautiously it may cause sepsis or even death. Appropriate therapy, alertness about sepsis and management of accompanying disease are important in the management of these patients.

REFERENCES

- Stevens, D.L., Bisno, A.L., Chambers, H.F., Dellinger, E.P., Goldstein, E.J., Gorbach, S.L., Hirschmann, J.V., Kaplan, S.L., Montoya, J.G., Wade, J.C., 2014. Infectious Diseases Society of America, Practice guidelines for the diagnosis and management of skin and soft tissue infections: 2014 update by the Infectious Diseases Society of America. *Clin. Infect. Dis.* 59, 10-52.
- Sommer, L.L., Reboli, A.C., Heymann, W.R., 2018. The cutaneous microbiota. In *Bacterial Diseases. Dermatology*, Vol. 4, J.L. Bologna, J.V. Schaffer, L. Cerroni, eds. Elsevier, Philadelphia, pp. 1259-1295..
- Gira, A.K., Reisenauer, A.H., Hammock, L., Nadiminti, U., Macy, J.T., Reeves, A., Burnett, C., Yakrus, M.A., Toney, S., Jensen, B.J., Blumberg, H.M., Caughman, S.W., Nolte, F.S., 2004. Furunculosis due to *Mycobacterium mageritense* associated with footbaths at a nail salon. *J. Clin. Microbiol.* 42, 1813-1817.
- Kars, M., van Dijk, H., Salimans, M.M., Bartelink, A.K., van de Wiel, A., 2005. Association of furunculosis and familial deficiency of mannose-binding lectin. *Eur. J. Clin. Invest.* 35, 531-534.
- Summanen, P.H., Talan, D.A., Strong, C., McTeague, M., Bennion, R., Thompson, J.E. Jr, Väisänen, M.L., Moran, G., Winer, M., Finegold, S.M., 1995. Bacteriology of skin and soft-tissue infections: Comparison of infections in intravenous drug users and individuals with no history of intravenous drug use. *Clin. Infect. Dis.* 20, 279-282.
- Chou, P.Y., Chen, Y.C., Huang, P., 2015. Forehead carbuncle with intractable headache. *Neuropsychiatr. Dis. Treat.* 11, 793-795.