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Research Article

Carbuncle in Diabetics-Our Experience

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Abstract: Carbuncle is an uncommon skin and soft tissue infection, predominantly occurring in diabetics. It is quite surprising that there are very few series on carbuncle over last 2-3 decades. The aim of this study is to provide our experience on carbuncle in diabetics. Majority of the carbuncles occur over the nape of the neck (40%). Most patients present to the hospital 2 weeks after the onset of the symptoms. Our study shows that staphylococcus aureus continues to be the commonest bacteria isolated. There is no mortality in this series.
Keywords: Carbuncle, Diabetics, Neck

INTRODUCTION

Skin carbuncle is a necrotizing infection of the skin and subcutaneous tissues composed of a cluster of furuncles with multiple draining sinuses [1, 2]. It is in fact an infective gangrene of the skin and subcutaneous tissue [3, 4, 5]. The word carbuncle is believed to have originated from the latin: *Carbunculus*, which means charcoal [3, 6]. Carbuncle was recognized as a complication of diabetes by charak and sushruta (600-400 BC) [7]. Carbuncle is often a broad, swollen, erythematous, deep and painful mass that usually open and drain through multiple channels [2]. They are commonly associated with diabetic patients [7, 8]. Carbuncles are often found on the nape of the neck, shoulders, hips, etc [3, 4]. It is quite astonishing that the studies on carbuncle are quite sparse with hardly a handful of series over the last 2-3 decades. The aim of this study is to provide our small experience with carbuncle in diabetes.

MATERIALS AND METHOD

A retrospective analysis was done from October 2009 to December 2012, in surgical unit '3' of department of surgery at St John's medical college, Bangalore, India, which is a tertiary care referral institute. The inclusion and exclusion criteria's is as follows

Inclusion criteria

- All carbuncles admitted and treated in our unit
- Type 2 diabetes mellitus

Exclusion criteria

- Patients admitted in other surgical units
- Patients who were operated at another hospital and were following with us.
- Patients who refused our treatment
- Patients with incomplete records/data

RESULTS

Around 21 patients with carbuncle were seen during this period out of which 15 patients were included in our study. 9 patients (60%) were males and 6 patients (40%) were females. The age for males ranged from 40 – 82 years with an average age of 60.55 years and the age for females ranged from 35 – 81 years with an average age of 56.67 years. The commonest site (Table 1) of carbuncle was neck (40%) followed by the back (26.67%).

Table 1: Showing the distribution of carbuncle according to the site of occurence

Sl. No.	Site of carbuncle	Number	Percentage
1.	Nape of the neck	6	40%
2.	Back	4	26.67%
3.	Shoulder/arm	2	13.33%
4.	Gluteal region	1	6.67%
5.	Thigh	2	13.33%
	Total	15	100%

Swelling was the most common presenting symptom in 86.67% of the patients followed by the pain (66.67%). 33.33% of the patients had both fever and pus discharge (Table 2). Majority of the patients (40%) presented with symptoms of more than 2 weeks of duration (Table 3).

Table 2: Showing the presentation of the common symptoms of carbuncle

Sl. No.	Symptoms	Number	Percentage
1.	Swelling	13	86.67%
2.	Pain	10	66.67%
3.	Fever	5	33.33%
4.	Pus discharge	5	33.33%

Table 3: Showing the duration of presentation of carbuncle

Duration	Number	Percentage
< 7 days	5	33.33%
7 – 14 days	4	26.67%
>14 days	6	40%
Total	15	100%

Fig. 1: showing the carbuncle over the back. Note the sieve like appearance.

13 Patients (80%) required surgery only once whereas 3 patients (20%) required surgery twice. 11 patients (73.33%) grew staphylococcus aureus out of which 3 were MRSA (20%) and 4 patients did not grow any organism.

There was no mortality in our series.

DISCUSSION

Skin and soft tissue infections are common in diabetics, especially when uncontrolled. Carbuncle belongs to a group of superficial soft tissue infections related to infection of hair follicles [2].

The common sites of carbuncle include nape of the neck and the back. The skin over these areas is coarse and vitality of the tissue is less [3, 4]. The other sites include shoulders, hips, thigh and over the abdomen [1, 4].

The most common organism is staphylococcus aureus, both methicillin sensitive and methicillin resistant strains [2]. Gram negative bacilli and streptococci [9] are uncommon organism. The bacteria penetrates the skin and the subcutaneous tissues to form a series of communicating abscesses, which discharge by separate opening on the surface (sieve like appearance) [3, 4]. There is a central large slough, surrounded by a rosette of small area of necrosis [3, 4], due to destruction of the small blood vessels [10].

The carbuncle affects adults and children's are spared [11]. It occurs more commonly in diabetics due to an impaired leucocyte function.

Earlier, carbuncles were arbitrarily classified into localized nontoxic, localized toxic and spreading [5]. This classification is not used now.

The classical treatment of carbuncle is excision of all the necrotic tissue with adequate surgical drainage of pus and broad spectrum antibiotics [1, 2]. The wound is allowed to heal and later a skin graft, secondary suturing or a local skin flap may be employed to close the defect [1, 2].

We did not include the secondary procedures like skin grafting, local flap, etc in our study as most of our patients are lost for follow up once the acute problem of the patient is dealt.

CONCLUSION

Carbuncle in diabetics affects the nape of the neck most commonly. Staphylococcus aureus is the most common isolated organism. Around 40% of the patients presents with symptoms of more than 2 weeks duration. 20% of patients with carbuncle require repeat surgery. There is no mortality in our series of carbuncle.

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