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A PROSPECTIVE STUDY OF PRESENTATION AND PROGNOSIS OF CARBUNCLE IN MKCG MEDICAL COLLEGE AND HOSPITAL OF SOUTHERN ODISHA

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ABSTRACT:

Introduction: skin carbuncle is infection of hair follicle involving skin and subcutaneous tissue with multiple draining sinuses, mostly due to staphylococcus aureus.

Aim: To study the presentation and prognosis of the patients with carbunclespresenting in department of General surgery, MKCG MCH, Berhampur.

Materials and methods: This study was conducted in Department of General Surgery, MKCG Medical College and Hospital, Berhampur over a period of 24 months from July 2019- June 2021. The study included 112 patients with carbuncle. The patients were divided in two groups: Group I-Large Carbuncles size measuring >5cm in one direction and Group II- Small Carbuncles size less than 5 cm. Patients were admitted and treated according to symptoms and indications for surgical intervention. Secondary intention of healing was the approach in most of cases while some patients required partial thickness skin grafting and then patients were followed up for a period of 6months .The data was evaluated and statistically analysed using IBM® SPSS® 23.0, for Windows®, to bring out the results of the study.

Results: 112 patients were studied presenting with carbuncle in the age group of 14 to 70 years with mean age of presentation 32.3 years.Group-I patients having large Carbuncles, Fever was in 40(95%) patients, Pain was in 42(100%), Swelling was in36(86%) and Pus Discharge was in 24(57%). In Group-II patients with Small Carbuncles, Fever was in 58(83%), Pain was in 61(87%), Swelling was in 68(97%) and Pus Discharge was in 28(40%).**Conclusion:**Carbuncles normally have good prognosis if treatment is sought early, but chronicity is seen in large carbuncles.

Keywords: Carbuncle, Secondary intention, Excision

INTRODUCTION

A carbuncle is acontamination of the hair follicles that extends into the adjacent skin and deep underlying subcutaneous tissue.[1] Staphylococcus aureus is the most common causative organism especially methicillin resistant Staphylococcus aureus. [2] Staphylococcus aureus can typically be found on intact skin andmaximum in intertriginous of the groin, axilla, buttocks, neck and nares.[3]They usually manifest as tender, inflamed erythematous fluctuant

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nodule with many draining sinus tracts and pustules at the surface.[4]The carbuncle occurs most commonly in diabetic adults due to defective leukocyte function[5]. Treatment of carbuncle consists of excision of necrotic material and drainage of pus. The bacterial swab should be taken before starting antibiotics to exclude MRSA and gram negative bacteria. [6, 7, 8]Dicloxacillin and cephalosporins are the most common first line agents. Clindamycin, tetracyclines, trimethoprim-sulphamethoxazole, linezolid, or glycopeptidecan be used in MRSA suspected cases. [9, 10]There is scarcity of research on the presentation and prognosis of carbuncles patient. In this study, the data of patients undergoing surgery at MKCG medical college and Hospital were collected and analysed.

Aim:

To study the presentation and prognosis of the patients with carbuncles

MATERIALS AND METHODS:

This study was conducted in Department of General Surgery, MKCG Medical College and Hospital, Berhampur over a period of 24 months from July 2019- June 2021. The study included 112 patients with carbuncle. The patients were divided in two groups: Group I- Large Carbuncles size measuring >5cm in one direction and Group II- Small Carbuncles size less than 5 cm. Patients were admitted and treated according to symptoms and indications for surgical intervention. Secondary intention of healing was the approach in most of cases while some patients required partial thickness skin grafting and then patients were followed up for a period of 6months .The data was evaluated and statistically analysed using IBM® SPSS® 23.0, for Windows®, to bring out the results of the study.

Inclusion criteria:

All cases of carbuncle aged between 14years to 70years were included.

Exclusion criteria:

Patients lost to follow up.

Ethical clearance:

The present study was approved by the institutional Ethical Committee of M.K.C.G Medical College and Hospital, Berhampur, on human subject research.

RESULTS:

Table I: General data

Total no. of patients in study	112	100%
Age	14-70 years	Mean age 32.34 years
Males	38	
Females	74	
Duration of lesion at presentation	3-45 days	Average 7± 12 days
Group I - large carbuncle	42	
Group II – small carbuncle	70	
Conservative treatment	14	
Excision of carbuncle	82	
Split skin grafting	7	
Secondary suturing	3	
Local flap	6	

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Table II: site of involvement

	Group I	Group II
Scalp	3(7%)	1(1%)
Axilla	4(9%)	2(3%)
Chest wall	2(5%)	4(6%)
Back	10(24%)	14(20%)
Nape of neck	5(13%)	16(23%)
Shoulders	2(5%)	3(4%)
Anterior abdominal wall	7(16%)	8(12%)
Thigh	2(5%)	6(9%)
Inguinal region	4(9%)	10(14%)
Gluteal region	3(7%)	6(8%)

Table III: presentation and management

	Group I	Group II
Fever	40(95%)	58(83%)
Pain	42(100%)	61(87%)
Swelling	36(86%)	68(97%)
Pus discharge	24(57%)	28(40%)

Table IV: Morbidity and mortality

	Group I	Group II
Septicaemia	21(50%)	3(4%)
Persistent discharge	11(26%)	2(3%)
Ugly scarring	8(19%)	2(3%)
Failure of conservative treatment	0%	5(7%)
Failure of grafting	6(14%)	
Recurrence	4(9%)	
Multi organ dysfunction	9(21%)	
Mortality	3(7%)	

DISCUSSION:

Carbuncleis a superficial soft tissue infection due to infection of hair follicles.Back and nape of neck being the most common site. Early diagnosis and treatment with antibiotics, infusion therapy and radical surgery is necessary.[11, 12, 13, 14]In the present study septicaemia rate are 50% and 4% in large and small Carbuncles respectively; while the study of Mufassar et al reported a rate of 31.8%. We report incidence of persistent discharge as 26% and 3% in large and small Carbuncles respectively; while the study of Bhatt[15] reported a rate of 30%. In studies by Das et al[16] , the ugly scarring was in 80% patients, while these complications are 19% and 3% in large and Small carbuncles respectively in our study. Failure of conservative treatment was in 7% in Small Carbuncles; while the study of Franklin et al[17] reported a rate of 3%. We had the failure of grafting in 14% in patients with big carbuncles, while study in Tripathy et al[18] had the graft failure in 7% patients. Large Carbuncles had a recurrence rate of 9% in our study, while study of Hee et al[19] showed that recurrence occurred in only 2%.21% patients with large carbuncles suffered from multi organ dysfunction according to our data, while data of Sarita et al[20] had 20.5% patients with this problem.

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CONCLUSION:
Carbuncles normally have good prognosis if treatment is sought early, but chronicity is seen in large carbuncles.

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CONFLICT OF INTEREST
There are no conflicts of interest to declare by any of the authors of this study.

REFERENCES
1. Roberts S, Chambers S. Diagnosis and management of Staphylococcus aureus infections of the skin and soft tissue. Intern Med J. 2005 Dec;35Suppl 2:S97-105.
2. Stulberg DL, Penrod MA, Blatny RA. Common bacterial skin infections. Am Fam Physician. 2002 Jul 01;66(1):119-24.
3. Sanford MD, Widmer AF, Bale MJ, Jones RN, Wenzel RP. Efficient detection and long-term persistence of the carriage of methicillin-resistant Staphylococcus aureus. Clin Infect Dis. 1994 Dec;19(6):1123-8.
4. Roberts S, Chambers S. Diagnosis and management of Staphylococcus aureus infections of the skin and soft tissue. Intern Med J. 2005 Dec;35Suppl 2:S97-105.
5. Shortt R, Thoma A. Empirical antibiotics use in soft tissue infections. Can J Plast Surg. 2008;16(4):201-4
6. Feingold DS, Hirschmann JV, Leyden JJ. Bacterial infections of the skin. J Am AcadDermatol. 1989 Mar;20(3):469-75.
7. Sanford MD, Widmer AF, Bale MJ, Jones RN, Wenzel RP. Efficient detection and long-term persistence of the carriage of methicillin-resistant Staphylococcus aureus. Clin Infect Dis. 1994 Dec;19(6):1123-8.
8. Khawcharoenporn T, Alan T. Oral antibiotic treatment for methicillin-resistant Staphylococcus aureus skin and soft tissue infections: review of the literature. Hawaii Med J. 2006 Oct;65(10):290-3.
9. Hedrick J. Acute bacterial skin infections in pediatric medicine: current issues in presentation and treatment. Paediatr Drugs. 2003;5Suppl 1:35-46. [Abstract]
10. Bernard P. Management of common bacterial infections of the skin. CurrOpin Infect Dis. 2008 Apr;21(2):122-8. [Abstract]
11. Wood S. Case study: carbuncle of the neck with extensive tunneling. Ostomy Wound Manage. 1993 Mar; 39(2):24, 26-7, and 30-1
12. Meffert JJ. A polypous carbuncle. Int J Dermatol. 1998 Apr; 37(4):267-8
13. Sharma S, Verma KK. Skin and soft tissue infection. Indian J Pediatr. 2001 Jul; 68 Suppl 3:S46-50. Review.
14. Trent JT, Federman D, Kirsner RS. Common bacterial skin infections. Ostomy Wound Manage. 2001 Aug; 47(8):30-4. Review
15. Bhat SM; SRB's manual of surgery. 3rd edition, Jaypee Brothers, Medical Publishers, India, 2009.
16. Das S; A concise textbook of surgery. 3rd edition, S Das, India, 2001.
17. Franklin RH; The treatment of carbuncles. Postgr Med J., 1937; 13(142): 284-287.

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18. Tripathy BB; Landmarks in the history of diabetes. In: RSSDI textbook of diabetes mellitus. 2nd edition, 2008: 7-45
19. Hee TG, Jin JB; The surgical treatment of carbuncle: A tale of two techniques. Iran Red Cres Med J., 2013; 15(4): 367-370.
20. Bichitrananda S, Sarita O; Granulicatellaadiacens: An unusual causative agent for carbuncle. Ind J Path Micro., 2012; 55(4): 609- 610.