ORIGINAL ARTICLE

Primary VS Secondary Closure of Cutaneous Abscesses after Incision and Drainage in Diabetic Patients - A Comparative Study

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ABSTRACT

Traditionally cutaneous abscesses have been treated with incision and drainage (I&D) and left to heal by secondary closure. The other way of treating an abscess is incision and drainage followed by packing or primary closure. In the current study when individuals of Group A and Group B were studied regarding percentage of abscess healing and postoperative complications the results were significant< 0.05. The Percentage levels of abscess healing and postoperative complications after I&D were (70.24±29.66), (55.10±44.99) and (28.90±1.10), (43.25±1.74) in individuals with secondary and primary closure respectively. Relatively the fasting serum glucose levels of individuals in both Group A and Group B were (130.32±20.24) and (136.34±20.34). The results of this study were significant< 0.05 and it has concluded that tradition way of treatment is better than packing or primary closure.

Keywords: Cutaneous abscess, I and D, primary closure vs secondary versus staphylococcus aureus,

INTRODUCTION

An abscess is a tender mass generally surrounded by a colored area from pink to deep red. Abscess can feel by touching and it can appear on any part of the body (Duong et al., 2010). A cavity is developed inside the abscess which is filled by pus. Pus is a thick fluid of yellow or green color which has dead tissues, white blood cells and pathogens (Simmset al., 1982). Its smell is very bad. Mostly skin abscesses are proved harmless and cure without any treatment (Abrahamet al., 1997). Skin abscesses can also develop in the areas of hair growth i.e. underarms. Skin

Abscesses may be infectious because of certain bacteria; mostly it has seen in different studies that Staphylococcus aureus *and* Streptococcus pyogenes are very common (Tomaet al., 2001). In case of infections the cavity of the abscess becomes larger while pus cells not get out. In many studies stated that the main cause of abscess is an infection with bacteria. These bacteria produced pus which causes cellular toxicity that can damage the body tissues. However serious medical complications may develop in case of untreated an abscess even it may be life-threatening (Griceet al., 2009).

Currently the cutaneous abscesses treated by incision and drainage (I&D) both with primary closure and secondary closure way surgically. The conventional way of treating an abscess is incision and drainage followed by packing or primary closure It has seen that in many countries Skin abscesses are treated by primary closure method but mostly the traditional method which is secondary closure has been adopted (Cogen et al., 2008).. Primary closure of surgically drained skin abscesses shortens the healing time, thus decreasing morbidity of patient and cost of treatment (Griceet al., 2008). On the other hand some complications have reported in some studies by different scientists in primary closure option after incision and drainage. While number of studies claims that secondary closure is a best way of treatment but it is prolonged.

MATERIALS AND METHODS

The present study was conducted in Jinnah hospital Lahore, Sheikh Zyed hospital Lahore and Jubail General Hospital, Jubail KSA. All the subjects of the study were attended surgical OPD with acute superficial abscesses. 80 individuals were selected and they were all diabetics of type 2 while any other systemic disease was not observed in all the individuals. Individuals were divided into two groups. Group A includes conventional incision and drainage i.e. secondary closure and Group B includes incision, drainage and primary closure. In both groups, injection amoxicillin (1000 mg) + potassium clavulanate (200 mg) 1.2 g I.V. given 12 hourly for 2 days and then continued with tablet for 3 more days. 7 day was the average duration of drain removal. Healing time was recorded from time of incision until the complete obliteration of abscess cavity in both groups respectively. The age of all the individuals of Groups A and B was in between 21-30 years. Raw data was analyzed by using SPSS. P value of < 0.05 was considered as significant.

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RESULTS

In the current study when individuals of Group A and Group B were studied regarding percentage of abscess healing and postoperative complications the results were significant< 0.05.

The Percentage value of abscess healing after I&D was (70.24±29.66) in individuals with secondary closure, whereas postoperative complications were (28.90±1.10). In Group B the Percentage levels of abscess healing after I&D was (55.10±44.99) in individuals with primary closure and postoperative complications were (43.25±1.74) respectively. There is a significant < 0.05 difference between two results obtained in the treatment of skin abscess by two different ways. While the fasting serum glucose levels in Group A and Group B were (130.32±20.24) and (136.34±20.34) respectively.

Group A: secondary closure (n=40)

Individuals with acute superficial abscesses.	Mean values±SD
Fasting glucose levels gm/dl	130.32±20.24
Percentage of abscess healing after I&D	70.24±29.66
Percentage of postoperative complications	28.90±1.10

< 0.05

Group B: Primary closure (n=40)

Individuals with acute superficial abscesses.	Mean values±SD
Fasting glucose levels gm/dl	136.34±20.34
Percentage of abscess healing after I&D	55.10±44.99
Percentage of postoperative complications	43.25±1.74

< 0.05

DISCUSSION

This study has provided us an opportunity to observe the percentage rate of healing in surgically drained skin abscesses by using two different techniques i.e. primary closure and secondary closure. The comparative analysis described that technique of primary closure after draining a skin abscess is not very well supported by our local data and is also not a conventional way of treatment. Therefore in our local environmental conditions traditional technique i.e. secondary closure is more beneficiary for pts.

According to a study 9 patients were not in proper recovery phase how were treated with primary closure about 30%, pus was still discharged from their abscesses (Leeet al., 2004). These results are same and comparable to the results of another study (Rajendranet al., 2007) in which 35% of the patients had continuous pus discharge after primary closure.

Breenaet al., (2009) described in their study that total, 33.33% of the patients got healing on seventh day of operation those patients were treated with primary closure and showed 56.66% healing as compared to the in patients treated with secondary closure. Hence the healing percentage with secondary closure was very well. These results were very much comparable to another study conducted by (Moranet al., 2009). The results of current study showed that primary closure of skin abscesses after I and D considerably decreased the time of healing but increased the %age of postoperative complications.

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