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A Case Report: Otitis Externa and Hidradenitis Suppurativa Assosiated with Diabetes Mellitus

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Abstract **Background:** Hidradenitis suppurativa (HS) and Otitis Externa (OE) are atypical medical conditions. It starts after puberty and rarely develops in children or people above 50 years. Diabetes has no role apparent role in HS development but hormonal change may trigger its development. **Case report:** a 55 year old, hypertensive, diabetic female suffering from HS and OE has painful lump at her auxiliary area (armpits) that has been persisted for more than five months along with low grade fever on and off. She has developed an earache for last six days with pus discharge. She is obese and was not consulting her doctor for more than one year. **Conclusion:** case illustrates that in most cases, with more women are aware and willing to take the precaution steps, suspected cases of breast cancer will be sufficiently informative as an additional investigations. The case further illustrates that the biopsy and blood culture may be helpful for the correct diagnosis. Such tests may be necessary to rule out other skin conditions.

Keywords Hidradenitis Suppurativa, Otitis Externa, Diabtes Mellitus

1. Introduction

Hidradenitis suppurativa (HS) and Otitis Externa (OE) are rare medical conditions. HS is non-contagious dermatological disorder of apocrine sweat glands, characterized with lumps formation. It is a chronic progressive inflammation associated with the region where sebaceous glands are more abundant such as armpits, groin, breast, inner thighs and buttock[1]. Predominantly it starts after puberty and rarely develops in children or people above 50 years[2]. Diabetes has no apparent role in HS development but hormonal change may trigger its development[3]. Jemec, Revuz and Leyden reported that a genetic involvement might be present in HS[4], an increased incidence is observed in blacks, possibly because they have a greater density of apocrine glands compared with whites. BMI is also associated with HS[5]. The onset of HS peaks in individuals aged of 26 years and range between 11 to 50 years of age. In extremely rare cases, HS occurs before puberty or after menopause. Bacterial connection with HS development is so far not present still once disease starts bacteria can invade the lesion. Patient avoid to talk about the disease as a result condition worsen inflammation leads to the pus discharge and leaves open wound that usually do not heal. Early diagnosis and treatment of hidradenitis suppurativa can help manage the symptoms and prevent new lesions from developing[6].

Otitis Externa is an inflammatory condition of external auditory canal characterizes by severe pain[7, 8]. Malignant otitis externa (MOE) is rare in healthy individuals but immunocompromised navies might develop it. Diabetic individuals has a greater chance of encountering MOE[9]. Roland and Stroman reported that OE is mostly caused by *Pseudomonas aeruginosa* a normal pathogen of ear[10]. It is rare a patient develops HS in old age and also suffering from MOE.

2. Case Presentation

A 55 years lady was presented to Obstetrics and Gynaecology Clinic, Hospital Universiti Sains Malaysia, with painful auxiliary swelling on left side for five months. On physical examination red coloured, tender deep-seated nodule was observed covering a four centimetre area. She has low grade fever on and off for more than three months. She was feeling sharp and rigorous pain in left ear with pus discharge started six days before.

Patient has a significant medical history for non – insulin - dependent diabetes mellitus (14 years), hypertension (5 years) and ischemic heart disease (one year). She was non-smoker and non alcoholic. Her chronic regimen includes Aspirin 75mg, Atorvastatin, Metoprolol and Ramipril, Acarbose, Metformin and Novomix. She has not seen her doctor since last year.

Laboratory investigation provided information about

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abnormal blood sugar level 17mmol/L (4.4-6.1 mmol/L) with an elevated blood pressure 175/107 (120/80). Her body weight was 72kg with a height of 149cm. Biopsy procedure from auxiliary area revealed that she has developed hidradenitis suppurativa. She was also diagnosed otitis externa of left ear.

She was administrated with intravenous Tramadol hydrochloride 50 mg bolus to relieve pain and Clotrimazole (drops) for ear discharge, three times a day. Ampicillin - sulbactum 1.5mg twice daily was administered to control ear infection for seven days. She was advised with surgical excision for hidradenitis suppurativa. Before surgery Aspirin was stopped, Actrapid (Purified human neutral Insulin) was started instead of Novomix (biphasic insulin aspart 30/70) to control high blood sugar level. In 36 hours her sugar level dropped to 9mmol/L. Surgical incision and drainage procedure was carried on the patient. Patient was stable, relieved and was discharged after proper counselling regarding hidradenitis suppurativa. Her therapeutic regimen on discharge was Aspirin 75mg; Atorvastatin, Metoprolol and Ramipril for hypertension, Acarbose, Metformin and Actrapid for type II DM.

3. Discussion

Malignant Otitis Externa (MOE) is rare infection usually develops among immunocompromised patients[11] and elderly diabetic navies[9]. Since patient has not visited her doctor regularly, her previous therapeutic regimen was failing to control her blood sugar level as a result she developed MOE. Blood sugar control is important in diabetes patient, otherwise might result in a life-threatening infection[11]. An early diagnosis of OE can prevent complications. Intensive management with analgesics, insulin and antibiotics along surgical debridement is important in diabetic individuals[12].

Mechanism of development of Hidradenitis Suppurativa is unclear. Reported factor of HS are obesity, cigarette smoking, apocrine glands involvement and hormonal changes are still need a extensive study to be proved, bacterial infection has no connection with HS[3, 5]. It rarely develops in females after menopause. Different studies reported about 1% prevalence of HS in general population[13, 14]. Chance of secondary infection remains high in diabetic individuals, so surgical intervention remains the best choice for HS. Due to social aspect and cultural barrier, female feel hesitation to consult the physician about developing problems like HS. In current scenario OE was the primary concern for the patient, as she was suffering from last six months. An early diagnosis helps in time intervention of HS.

HS is not associated with bacterial infection still once develop bacterial infection can worsen the condition; Antibiotic might not help in its cure but are important to avoid super-infection. Earlier studies reported the chance of reoccurrence of HS after Surgical procedure[15] but new surgical technique minimized this chance. In healthy individuals mild to moderate HS might be treated with simple interventions but surgery remain the top priority[2].

4. Conclusions

Patients suffering from HS usually gets hesitate to consult doctor due to Personal, Social and cultral barriers. A proper educational programme is adviced to the target population regarding such medical complication as an early diagnosis might help in reducing the secondry infection. Clinical set up misdiagnose it and ineffective antibiotic treatment results in failure of therapy and increase the economic burden of individuals.

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