Macrotia - Acquired As Against Congenital: A Case Report

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Abstract

Wasp belongs to a group of insect that does not intentionally attack human unless threatened[1]. It is a member of the Hymenoptera order (which also includes bees and ants). Its consists of various proteins and enzymes. It also contains an acetylcholine-like substance, histamine, serotonin and a kinin (peptides which cause slow muscle contractions and lower the arterial blood pressure)[1]. In most people the wasp sting causes an initial sharp localized pain followed by swelling and itching of the affected part.

We present a case of a seventeen year old male student who presented with persistently protruding ear following a wasp sting on the affected left ear ten years duration.

On the protruding ear, fine needle aspiration cytology was done but the result was inconclusive. A skin snip revealed only inflammatory cells with no evidence of microfilaria. A wedged incisional biopsy of the hypertrophied pinna was done under local anaesthesia. Biopsy was taken from anterior helix and the post auricular sulci area. The Histology report revealed inflammatory cell with no evidence of malignancy.

Acquired Macrotia may be an unusual presentation in wasp sting, information on bites and stings should be incorporated within injury prevention programs in West Africa such as those developed by Farmsafe Australia.

Key words: Macrotia, Otitis externa, wasp, Otorhinolaryngologist

Introduction

Wasp belongs to a group of insect that does not intentionally attack human unless threatened[1]. It is a member of the Hymenoptera order (which also includes bees,yellow jackets, hornets and ants). Its consists of various proteins and enzymes.

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It also contains an acetylcholine-like substance, histamine, serotonin and a kinin (peptides which cause slow muscle contractions and lower the arterial blood pressure)[1]. In most people the wasp sting causes an initial sharp localized pain followed by swelling and itching of the affected part.

Protruding ears (apostasis otis) is one of the most common grade I abnormalities of the ear according to Weedar [2,3]. In protruding ears, deviations from the normal shape are especially apparent at the antihelix, concha, mastoid-helix angle, and lobule. The enlargement of the helix-mastoid angle is enough to cause a protrusion of the entire auricle, especially in the mid portion [4,5]. This situation is sometimes referred to as pseudo-conchal hyperplasia. Macrotia is a relatively rare auricular deformity.

We present a case of a seventeen year old male student who presented with persistently protruding ear following a wasp sting on the affected left ear ten years duration.

Case report

A seventeen year old secondary school boy presented at the Ear, Nose and Throat clinic with ten year history of insect bite (wasp sting) on the left ear while working in the farm. He immediately experienced a sharp burning pain, intense itching on the left ear which was followed by a progressive increase in size and thickness of the skin of the left pinna which was more on the helical region. There was no preceding history of trauma to the ear. There was no ulceration, hard of hearing, otorrhea, tinnitus, rotator vertigo, foreign body sensation, and fluid sensation on the affected ear. He had no associated nasal or throat symptoms.

There was also no abnormal swelling in any other part of the body. He had positive history of application of native drug topically and scarification of the neck. He had no previous surgery, hospital admission, blood transfusion, drug reaction or any other form of treatment.

General examination revealed a young boy, well oriented in time, place and person. He was not in any form of cardio-respiratory distress, and was afebrile to touch Temperature 37.2°C, not pale, anicteric and had no significant palpable peripheral lymphadenopathy. Otologic examination of the left ear revealed an obvious hypertrophied, protruding, the average distance between the helical rim and the head

point mutations and environmental influences during pregnancy, such as exposure to X-rays, hypoxia, as well as the intake of certain drugs, such as thalidomide[2]. Numerous anthropometric studies have been carried out to measure the normal distance or calculate the normal angle between the ear and the head (cephaloauricular angle). According to Wodak, the average distance between the helical rim and the head, measured at the upper and middle measuring point, and at the level of the tail of the helix is approximately 6 to 20 mm in adults [3] The angle between the mastoid and the helix of a normally shaped auricle should not exceed 30 degrees[4,5,6].
However, in our indexed patient, the average distance between the helical rim and the head was 18-34mm which is higher than findings by Wodak. The angle between the mastoid and the helix is about 45° which have exceeded the normal 30 degree. The enlargement of the helix-mastoid angle is enough to cause a protrusion of the entire auricle, especially in the mid portion. This situation is sometimes referred to as pseudo-conchal hyperplasia.

In protruding ears, deviations from the normal shape are especially apparent at the antihelix, the concha, the mastoid-helix angle, and the lobule.
Wasps are members of the order Hymenoptera, suborder Apocrita[1]. Members of this order, which includes bees, yellow jackets, hornets, and ants, are found all over the world. Wasps can be further divided into social wasps and solitary wasps. Social wasps include the aggressive wasps found in northern temperate regions, such as the yellow jacket (black and yellow bands on abdomen) and the hornet (mostly black with yellow markings on the face and thorax). Social wasps live in colonies that may contain from a dozen to many hundred mature insects. The colonies can range in size and position from the underground nest of the yellow jacket, which is found in rotted tree stumps and mammal burrows, to the hornet's paper nest that hangs from shrubbery, trees, or is plastered to the side of a shed or house. The case presented lives at a place where we can call the northern part of Nigeria (Bida) and it's a temperate region, he was stung by the wasp why working in the farm.

Solitary wasps acts as a predator feeding on smaller insects and bringing the paralyzed prey back to its nest for its young. Solitary wasps include the mud wasp, which makes its nest in crevices of windows.

More than 25,000 species of wasps exist worldwide. They include yellow jackets, which are members of the genus Vespula and are large and aggressive. The female yellow jacket begins to construct her nest in the springtime. The nest is composed of a paperlike substance that wasps regurgitate from chewed wood or plant material. The nest consists of multiple vertically oriented cells, with the opening on the bottom of the nest.[7] Envenomation or stings by members of the order Hymenoptera is a major cause of morbidity and mortality and accounts for more fatalities than any other venomous animal.

The skin is the most commonly affected organ system. This is evident in the case presented. The result of a wasp sting can vary from a single area of localized inflammation to a generalized urticarial rash. In Europe[8,9,10] and the United States [10] relative proportions of deaths from wasp and bee stings have been recorded however no data available for West African sub-region or Nigeria. However in the indexed case presented the reaction is limited to the pinna with localized inflammation and urticarial rash around the skin of the pinna. Urticaria develops because of the presence of activated mast cells in the connective tissue of the dermis with the production of chemical mediators, such as histamine, that increase local vascular permeability.

In general, localised vasculitis is thought to be caused by several factors. IgE triggers the release of vasoactive amines (eg, histamine, bradykinin, leukotrienes) from platelets or from mast cells, increasing vessel wall permeability (reference). This was experienced in the case reported.

However systemic symptoms such as nausea, vomiting, abdominal cramping, and diarrhea due to mast cell activation in the gastrointestinal tract, coughing, dyspnoea, and wheezing due to mast cell activation in the airway are absent in our patient. These further support the fact that the reaction to the dose of venom is constant and the concentration depends on the individual body mass index (BMI). In the index patient, the BMI is 26.5kg/m^2 and he had no evidence of previous exposure to wasp sting.

The itching may be alleviated by applying antihistamine cream. Alternatively, vinegar can be used. Application of a cold compress may reduce the swelling . However, a small percentage of the population is at risk of suffering an allergic reaction to the venom (systemic hypersensitivity reaction). This reaction ranges from large swelling to sudden death from anaphylaxis.

The wasp sting first aid kit for people who are allergic to wasp stings would include adrenaline (with syringes), antihistamine and a ventolin inhaler. In the case presented the initial management of the sting was by native treatment.

The current case report is a male, student and a farmer. The risk of wasp sting is thus higher and supports previous reports in the Australian farmer[11]

Conclusion

Macrotia may be an unusual presentation in wasp

sting, as there is no reported case of wasp sting affecting the ear or any affecting any other part of the body reported from West Africa or Nigeria.

We do not know of any insect sting apart from wasp? Information therefore on bites and stings should be incorporated within injury prevention programs in West Africa such as those developed by Farmsafe Australia.

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