CASE REPORT

Pregnancy tumour of the external auditory canal: treatment in clinic

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SUMMARY

We present the case of a 29-year-old woman with a symptomatic lobular capillary haemangioma (pregnancy tumour) arising from the external ear canal. A literature review shows this to be an uncommon lesion in a rare location. The lesion was successfully diagnosed and treated in clinic with complete resolution and no recurrence.

BACKGROUND

We present our approach to the management, namely excision under local anaesthetic, which marks this case as different from the other reports of lesions in this area. We conclude that pregnancy tumour lesions can be safely diagnosed and treated in the clinic setting without extensive investigation, provided there is a sufficient history and examination findings to be confident of diagnosis.

Pyogenic granuloma, more accurately termed lobular capillary haemangioma (LCH), is a benign, vascular tumour of almost any body tissue, clinically characterised by a rapid growth and a friable surface, most often seen in adults aged between 20 and 40 years.¹ They have a histopathological appearance of fine capillary vessels in a connective tissue stroma.² The natural history of these lesions is such that surgical excision is most often the treatment of choice, though recurrence can be a problem.³ Few regress spontaneously, instead causing repeated bleeding and, sometimes, discomfort. The root cause of these lesions is debated, with some evidence for the role of infection, trauma, medication and/or hormonal changes.^{4 5}

Pregnancy tumour is a variation of LCH that occurs in pregnancy, affecting around 5% of pregnant women.⁶ Again, granuloma is a misnomer as histopathology of these lesions does not show granulation. They most often occur in the third trimester, most commonly in the oral and nasal cavities, and sometimes on the fingers.⁷ It is rare to find such lesions in other anatomical locations. These lesions can partially or completely recede postpartum; they are different in their clinical course from non-pregnancy-related LCHs.⁶

CASE PRESENTATION

A 29-year-old woman presented 6 weeks postpartum with an approximately 8-week history of a sensation of fullness and a subjective progressive reduction in hearing in the right ear. She also complained of low grade pain and frequent bleeding from the ear with minimal trauma. She had an intermittent aural discharge with an unpleasant

odour. She described neither tinnitus nor vertigo. She did admit to habitual scratching of her ears, but had not previously attended her medical practitioner with any aural problems.

As her pregnancy approached term, the patient attended her own general practitioner and was prescribed a number of topical and oral antibiotics in sequence:

Otosporin ear drops; three drops, three times a day for 7 days (hydrocortisone 1%, neomycin sulfate 3400 units, polymyxin B sulfate 10 000 units/mL, GSK).

Fucidin ointment applied topically three times a day for a week (fusidic acid 2%, LEO Pharma).

Two discrete 7-day courses of oral flucloxacillin 500 mg four times a day (non-proprietary), Gentisone HC ear drops, three drops three times a day for 7 days (hydrocortisone 1%, gentamicin 0.3%, Amdipharm). Metronidazole 400 mg taken three times a day for 7 days (non-proprietary).

The fullness and aural discharge persisted despite these antibiotics. A bacteriology swab was taken by the patient's general practitioner, which showed growth of *Bacteroides* and other unspecified coliforms. Owing to the non-resolution of her symptoms she was referred for specialist review.

Figure 1 Photograph depicting lesion protruding from right ear, before excision.

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She had no significant medical or surgical history of note, and both the pregnancy and birth were uncomplicated. She had not taken regular medications and did not have allergies.

On examination at general ENT clinic, she had an erythematous, lobular mass filling and protruding from the right external auditory canal, which bled easily on contact (figure 1). It was a pedunculated lesion adherent to the anterior wall of the external auditory canal. A foul smelling discharge was present and further examination of the deep external auditory canal was not possible. The tympanic membrane was not initially visualised.

INVESTIGATIONS

A 14×11×8 mm³ specimen was sent for histopathological examination. This showed features of a LCH at multiple levels, with abnormal vascular channels at the base suggesting a possibility of recurrence (figures 2 and 3).

DIFFERENTIAL DIAGNOSIS

The salient point of this case is that, in this setting, with these symptoms and signs, the differential is sufficiently narrow that immediate treatment can be performed without further investigation of differentials. It is important to note that, if there is any doubt as to the diagnosis, it would be prudent to proceed with investigation—imaging (CT/MRI) and/or biopsy.

Possible differentials include a foreign body and granulation tissue, haemangioma, amelanotic melanoma or a glomus tumour.

TREATMENT

Given the history of pregnancy and the gross appearance of the lesion, a diagnosis of pregnancy-related LCH or pregnancy tumour was made in the first instance and, after consultation with the patient, a decision was taken to excise the lesion.

The procedure was performed using local infiltration of 1% lidocaine with 1:200 000 epinephrine, injected at the base of the stalk on the anterior wall of the external auditory canal. The lesion was then excised in one piece using a size 11 scalpel blade. There was minimal discomfort. A small amount of bleeding occurred, which settled spontaneously without intervention. The underlying tympanic membrane was intact. No packing was needed and the patient was instructed to keep the ear dry until

review. No further systemic antibiotics and no topical antibiotics were prescribed.

OUTCOME AND FOLLOW-UP

Recovery from excision proved uneventful, with complete healing and no sign of recurrence at 6-week review, nor again at 16 months on telephone follow-up.

DISCUSSION

Pyogenic granuloma, better recognised as LCH, is a benign condition that responds well to excision, with low recurrence rates of 3.7% in one report.^{3 8} Pregnancy tumour is somewhat different in that many will regress after the stimulus (pregnancy) is removed (birth). The difference appears to be mainly clinical and the role of increased sex hormones as a cause in these cases is debated. There is also an increased preponderance in women taking oral hormonal therapy, however, there is some evidence that the hormonal factor is perpetuating rather than causal.¹

LCH of the external auditory canal has few reported cases in the literature. Most pregnancy-related LCH lesions are found in the gingiva, with some occurring in the nasal cavity.⁶ The first case of pyogenic granuloma at any site was presented in 1897 and, subsequently, eight cases of LCH in the external auditory canal were reported, as found in the literature search.^{8–16} Two of these were related to pregnancy.^{15 16}

There are some similarities between our case and the case of pregnancy-related LCH reported by Courtney.¹⁵ Courtney's case was of a 27-year-old woman who also presented with bleeding, itch and mucopurulent discharge, which persisted some weeks after delivery, again despite various topical antibiotics. A lobular mass was noted to fill the external auditory canal and a swab also cultured coliform bacteria. The other previously reported case is that of a 32-year-old woman who was 36 weeks pregnant at time of diagnosis.¹⁶ The main and important differences between our case and these two are the level of investigation performed, and how the lesion was excised.

Although our case was an unusual diagnosis of a lesion at an unusual site, it was felt that there was enough clinical certainty of diagnosis, given the contextual history and presentation. Therefore, no further investigation was performed. Due to the exact nature of the examination, it was also obvious that excision under local anaesthetic in the office was an appropriate,

Figure 2 Histological examination shows a polypoid piece of tissue partially lined by hyperplastic stratified squamous keratinising epithelium. The remaining surface is ulcerated. Within the subepithelial tissue there is a lobular pattern of vascular proliferation with inflammation and oedema resembling granulation tissue.

Figure 3 The vascular channels are lined by swollen endothelial cells in an oedematous stroma, which is partially fibrotic. The accompanying inflammatory cell infiltrate comprises neutrophils and mononuclear cells.

safe and timely way to deal with the lesion. This was because the stalk or attachment to the external auditory canal was relatively easily seen and accessed, which it appears was not so in the case reported by Courtney. Indeed, six of the seven accessible cases of LCH in the external auditory canal reported proceeding to varying levels of investigation (CT/MRI/angiography) before eventual excision under general anaesthetic.^{9–11 13 15 16} Excision was performed via either endomeatal cold steel resection, laser or canal-wall-down mastoidectomy. We were able to avoid these potentially harmful investigations and interventions. Only one other case has been reported where the conditions were such that the lesion was removed using local anaesthetic.¹⁴

All three cases of pregnancy-related LCH (including this one) are of a lesion that persisted despite the apparent loss of the driving factor (pregnancy). We postulate that continual scratching of these lesions may have induced trauma and facilitated a secondary bacterial infection, possibly from dirt under fingernails, given the bacteria cultured. This infection may then contribute to the persistence of the lesion postpregnancy, when it would possibly otherwise spontaneously regress.

The bulk of the lesion was successfully excised. The histopathology report suggested a chance of recurrence. Toilet of the

ear canal and aeration of the distal canal probably allowed immediate resolution of the infection. Consequently no further regrowth occurred.

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Contributors DCD was involved in the literature review, design, acquisition, analysis, drafting. KE was involved in the drafting, figures. SN was involved in the drafting, figures. RA was involved in the conception, design and revision.

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Learning points

- Pregnancy-related lobular capillary haemangioma should be considered as likely in a new, pedicled lesion in the external auditory canal of a pregnant or recently pregnant woman.
- Surgical excision appears to be safe and appropriate, especially in the setting of secondary bacterial infection. Caution should be used where diagnosis is not as evident in clinic, and proceeding to investigation prior to excision in these cases is recommended.
- If the lesion can be fully visualised, then excision under local anaesthetic is a reasonable option, as this avoids a general anaesthetic and can be performed in an office setting.

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