Pledgets in ingrowing toenails

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SUMMARY Eighty children had cotton wool pledgets inserted under the nail corner for ingrowing toenails. Success was achieved in 44 (72%) of the 61 children followed up for a mean of 2.5 years. Appearance was excellent and compliance high. Initial insertion under anaesthesia improved the results, and chronicity did not adversely affect the outcome.

The varieties of treatment, often radical and disfiguring, for ingrown toenails underline the unsatisfactory management of this common, disabling, and underestimated condition.¹ A conservative treatment method would be preferable. Ingrown toenail is common in children and results in loss of school hours, impairment in sports and play, and repeated medical visits. The idea of raising the ingrowing nail edge from the side nail groove, by various methods, is not new, but has been reported only in adults.² We reviewed the use of cotton wool pledgets for ingrown toenail in a paediatric population.

Patients and methods

We reviewed the case histories of patients referred to a single consultant in two paediatric hospitals who had toenail problems during 1979 to 1984, and we selected for study those with ingrown toenail. Their histories, precipitating factors, infection, inpatient stay, acceptability of treatment, and outcome were recorded. Patients were followed up by questionnaire, telephone, and a special follow up clinic.

The treatment used was standard: under general anaesthesia the nail and surrounding skin was cleaned, pus was drained, and the ingrowing nail corner raised by a small, chlorhexidine soaked, cotton wool pledget (figure). Thirty six hours later the pledget was changed. The analgesic, mefenamic acid, was given orally for an hour beforehand. The foot was soaked in chlorhexidine and cetrimide (Savlon), the pledget was removed and a new one reinserted with the help of any fine blunt instrument. The pledget was initially changed twice daily. Subsequent changes were easier, less painful, and did not require analgesia. Children (or parents) were trained in this insertion and allowed home

once they were proficient. Pledgets were continued until the nail had grown beyond the side groove. Success was defined as a painless toenail which was not ingrowing and had a normal appearance.

Results

Eighty patients had pledgets inserted for ingrown toenail during 1979 to 1984. Their age distribution was: 0-4 years, two patients; 5-10 years, 17 patients; 11 years, nine patients; 12 years, 24 patients; and 13 years, 28 patients. The ratio was two boys to one girl. The duration of the ingrown toenail was less than two months in 24 children, greater than two months in 26 children, and of an uncertain duration in 30 children. Right and left sides were equally often affected, and 14 children had bilateral ingrown toenail. The lateral border was twice as often affected as the medial. The mean hospital stay, for treatment and training in pledget insertion, was four days. Altogether 64 patients had general anaesthesia for the initial insertion. Of 10 patients with a history of ingrown toenail, four had had surgery.

The mean duration of follow up was 2.5 years. Sixty one patients were available for follow up, and success was achieved in 44 (72%), 13 required surgery, and four had some remaining problems. Treatment was acceptable to 47 patients (77%), unacceptable to 10 (16%), and uncertain in four. Of 19 patients lost follow up, 10 were doing well when last reviewed, two had failed, one died (of an unrelated cause), and six were of uncertain result.

Figure Infected ingrowing toe nail (left); pledget inserted under ingrowing nail edge (right).

Pledgets failed in 23% of those with initial insertion under anaesthesia compared with 38% in those without anaesthesia. The length of time the child had had the ingrown toenail did not influence success. Appearance was excellent in those attending follow up clinics.

Discussion

This condition receives no attention in most paediatric surgical textbooks. It is mentioned in a book by Filston³ and another edited by Jones and Woodward.⁴ Pledget management is recommended in the latter, but no references are cited and no results reported. Gutter treatment for ingrown toenail in adults achieved success in 20 patients out of 36 studied after a one year follow up and the treatment was proposed for use in general practice.² Other forms of treatment studied include phenol,⁵ cryosurgery,⁶ and radical surgery in adult populations with success varying between 56% and 95%.

In children, ingrown toenail occurs most commonly in the older child (10 to 13 years old), and seems different to the congenital variety. We believe severe cutting or tearing with angling of the edges to be common precipitating factors. Most of our patients had this type of nail at presentation. Friction, trauma, and tight fitting shoes are other possible aetiological factors, yet only 14 of the children we reviewed had bilateral ingrown toenail and the lateral side was most frequently affected.

Children over 7 year old, and parents of those children who were younger, were easily taught to insert pledgets and how to take care of their nails

correctly. Once this had been learned patients could institute treatment for the contralateral nail if or when it became symptomatic (found in two patients).

Failure was reduced (38% to 23%) if the initial insertion was performed under anaesthesia; this was probably due to the thorough cleansing and deep insertion that was possible. The nail edge soon became raised and clear of the soft tissues and subsequent insertions were easy. The appearance was excellent, there was no loss of nail width or soft tissue, and no visible difference between the treated and the contralateral nail.

We propose this form of treatment as an acceptable conservative approach to the management of ingrown toenail in children.

References

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Received 3 August 1987

Acrodermatitis chronica atrophicans

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SUMMARY Two cases of acrodermatitis chronica atrophicans associated with *Borrelia burgdorferi* infection are reported; to our knowledge these are the first cases reported in children.

Lyme disease is a complex multisystem disorder which usually begins with erythema chronicum migrans, a creeping annular erythematous skin lesion. Weeks to months later some patients develop meningitis, cranial or peripheral neuropathies,

myocarditis, or arthritis. The illness is caused by the tick borne spirochete *Borrelia burgdorferi*.¹ Because acrodermatitis chronica atrophicans is also associated with *B burgdorferi* infection, it is now considered to be a late manifestation of Lyme disease.² Acrodermatitis chronica atrophicans is usually seen in adults aged 30 to 60 years; we now report two cases in children.

Case reports

CASE 1

A 10 year old boy was referred because of darkened