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Orthopaedics

SOME OBSERVATIONS ON WINOGRAD TECHNIQUE IN THE TREATMENT OF INGROWN TOENAIL.

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KEYWORDS :

Introduction

Ingrown toenail (onychocryptosis, unguis incarnates) is a painful condition affecting toe nails. It frequently involve the great toe.[1] Although an ingrown toenail can affect any age group, adolescents and young adults are commonly affected. The commonest symptom is pain in the affected nail which, if left untreated leads to infection, discharge and difficulty in walking, greatly hampering the quality of life of the individual. The risk factors for development of ingrown toenail are improper trimming of nails, tight toe-box of footwear, excessive sweating of feet, or nail abnormalities.[2,3]

Clinical features and diagnosis: The patient presents with pain, redness, swelling or discharge. Diagnosis is clinically apparent.

The disease can be described in following stages.

STAGE I (INFLAMMATORY STAGE): In stage I, patient has mild erythema, swelling and tenderness along lateral nail fold.

STAGE II (ABSCESS STAGE): Stage II is an advancement of stage I. The erythema, edema, hyperhidrosis, and tenderness increase; the nail fold bulges over the nail plate edge; and drainage begins. At first, the drainage is a thin, sticky, serous secretion. Because of the abundance of microorganisms normally present on the skin, infection rapidly follows, and the drainage becomes purulent and has a fetid odour.

STAGE III (GRANULATION STAGE): In stage III, granulation tissue covers the lateral nail fold and inhibits free drainage. If this stage is left untreated, epithelium creeps over the edge of the granulations, further inhibiting drainage and precluding any chance of elevating the nail edge from the dermis of the lateral nail fold. This stage can progress into a chronic, relatively asymptomatic condition during several weeks, usually followed by recurrent, acute inflammatory episodes.

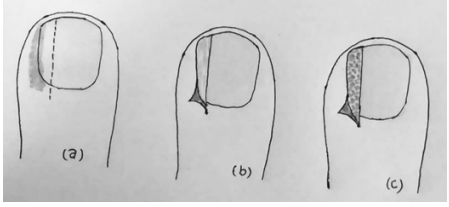
Treatment options ranging from a conservative medical approach to extensive surgical treatment options. The treatment option depends on the severity and stage of the ingrown toe nail. Conservative management includes modifying shoe wear with a wide toebox or open toe and trimming nails in a square shape. Washing toes in warm soap water or using hydrogen peroxide and iodine for cleaning also gives relief. Once the nail has embedded in the lateral grove, techniques to lift if off by either a gutter splint, cotton wick or a dental floss can be used.[4,5] The various surgical treatment options for ingrown toenails include total removal of the nail, partial or total excision of the germinal matrix, partial or total chemical matricectomy, Winograd method, Bartlett method, knot technique and partial resection of the nail bed and matrix.[6-12]

Winograd technique is probably the most frequently done operative procedure for ingrown toenail. However, delays in wound healing, poor nail appearance, and recurrence of nail deterioration can be seen in patients treated with this technique.[6,7,9,12]

MATERIALS AND METHODS

This study was carried out Hospital for Bone and Joint Surgery, Government Medical College Srinagar. The study consisted of a total of 30 cases presented at the hospital from September 2017 to February 2020. Approval to carry out the study was obtained from Institutional ethical committee. Informed consent was taken from each patient. Patients with stage II and stage III disease were treated with Winogard procedure. In case of bilateral involvement only one foot was operated at a time. Patients with bleeding diathesis, peripheral vascular disease, neurogenic disorders, diabetes mellitus were excluded from the study. Preoperative laboratory investigations include complete blood count, bleeding and clotting time, blood sugar level and screening for HIV, HCV and HBV were done in all the patients. Patients were followed up to a period of minimum one year. Surgical procedure was done under local anaesthesia (1% lignocaine). Foot was painted with 10% povodine iodine solution and sterile drapped. A sterile glove tourniquet was used. A small incision beginning 5-8 mm proximal to lunula in the soft tissue of the nail fold and was made. Mainly by blunt dissection, the soft tissue was separated from the ingrown piece of nail until the lateral edge of the nail was reached. With small pointed scissors, the nail was cut, with the incision extending back to the end of the matrix. The loose piece of nail was separated from the nail bed. With a small surgical curette, the underlying matrix and nail bed were removed. Sterile dressing was done after completion of the procedure. Patient was discharged same day with advice to elevate foot for 24 hours and few doses of oral analgesics. A prophylactic dose of antibiotic(cefuroxime 50mg per kg) was given before procedure followed by oral antibiotic(cefuroxime 5oomg b.d.) for 3 days. First dressing change was done at 48 hours. Stitched were removed at 2 weeks. Patients were followed weekly for first 3 weeks or till healing has occurred, and then at 3,6 and 12 month.

Figure 1: (a) incision. (b) part of nail plate removed and underlying matrix exposed. (c) removal of underlying matrix.



Results

A total of 30 patients with ingrown toenail were treated. The average age of the patients was 25.4 years with the range 16-48 years. Out of 30 patients, 23(76.66%) were males and 7(23.33%) were females. 4(13.33%) patients had bilateral involvement. The mean surgical duration for the procedure was 18 minutes. The mean postoperative healing time was 20.4 days. Recurrence was defined as pain or overgrowth of the lateral skin fold. Recurrence developed in 2(6.66%). Postoperative infection occurred in 2(6.66%) patients. 3 of the patients had cosmetic concern because of the abnormal growth of nail plate.

Table 1: Patient data(n=30)

No. Of Patients	30
Age Group	16-48 years
Sex	Males = 76.66%
	Females =23.33%
Bilateral	13.33%

Table 2: Complications

Recurrence	2(6.66%)
Postoperative Infection	2(6.66%)

DISCUSSION

An ingrown toenail is a disorder that mostly affects young adults, causes significant morbidity, loss of labour, and can result in psychological disturbances. Number of operative procedures have been described for the treatment of this condition but most are slight modifications of the original procedure. The Winograd procedure is a classic surgical procedure for ingrown toenails. It consists of partial plate excision and subjacent growth center destruction. The recurrence rates with the Winograd technique show great variation among different studies. Gerritsma-Bleeker et al reported 21% recurrence rate after partial matrix excision.[13] Aydin et al reported 6.5% recurrence in their series.[14] The recurrence rate in the present study was 6.66%. Complications are frequent in all the series, wound infection is the second most common complication after recurrence after the procedure have been reported. In our series had a secondary infection rate of 6.66% which is comparable to the literature.

Conclusion

Winograd technique is probably the most frequently done operative procedure for ingrown toenail. Winograd technique is an outpatient procedure. It is a simple procedure with acceptable recurrence rates and complications. Patients should be explained about the possible recurrence and the complications before the procedure.

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