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A CLINICAL STUDY AND MANAGEMENT OF THROMBOANGITIS OBLITERANS AT OSMANIA GENERAL HOSPITAL

Surgery

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ABSTRACT

Thromboangiitis obliterans is a nonatherosclerotic, segmental inflammatory disease that most commonly affects the small and medium-sized arteries and veins in the upper and lower extremities. Cigarette smoking is the main etiology of the disease. Thromboangiitis obliterans is a peripheral vascular disease which usually affects young males, involves predominantly the lower limbs than upper limbs. This was a prospective study conducted in Osmania general hospital, Hyderabad including 30 cases of Thromboangiitis Obliterans admitted from November 2016 to October 2018.The age of onset is in the third decade.The youngest patient was 22 years old and the oldest was 48 years old. No familial incidence was seen in my study.56.78 % of patients studied presented with ischaemic ulceration and 76% gangrene, 80% with rest pain and all patients had grade III intermittent claudication. The right lower limb was involved in 20 patients, the left lower limb in 12 patients, right upper limb in 01 cases, and both lower limbs were involved in 2 patients. All patients underwent conservative therapy.10%of patient however benefitted from conservative therapy. 05 patients underwent lumbar sympathectomy.Majority of cases (66.66%) underwent amputations because patients continuously smoked after intial conservative therapy and lumbar sympathectomy and late presentation of the disease after gangrene was set in.

KEYWORDS

Thromboangitis obliteranse ,cigarette smoking, ischaemic ulceration

INTRODUCTION

The etiology of Buerger's disease is unknown, but there is an extremely strong association with heavy tobacco use, and progression of disease is closely linked to continual use. While mortality is not increased, patients with Buerger's disease often suffer from severe ischaemic pain and tissue loss culminating in minor and major limb amputation and since the disease affects young patients it has implications over the patient's livelihood. The cornerstone of therapy is the complete discontinuation of cigarette smoking or the use of tobacco in any form. Quitters will almost always avoid amputations, whereas 40% or more of patients who continue tobacco use will progress to one or more amputations. Lumbar sympathectomy has a role in relieving rest pain and healing of the ulcers. Surgical revascularization is usually not possible, because of the diffuse segmental involvement and distal nature of the disease.

MATERIALS AND METHODS

This study was conducted in Osmania general hospital attached to the Osmania medical college,Hyderabad. The patients for this study were chosen from patients admitted in this hospital with a diagnosis of Thromboangitis obliterans from October 2016 to October 2018. Total of 30 patients were studied.

Patients admitted in Osmania general hospital hospital with history of ischaemic ulcer, gangrene, rest pain were interviewed and a detailed history taken. Particular attention was given to the history of intermittent claudication, ulceration, rest pain, and gangrene. History of smoking was analyzed with respect to the age of onset of smoking, number of bidis / cigarettes smoked per day and the number of years smoked.

Management

Patients were initially managed by conservative measures on admission, which included administration of haemorheological agents such as pentoxyphyllin 400 mg, antiplatelet agents such as Aspirin 150 mg. Patients were also prescribed Tab Cilostazol 100 mg bd .Patients with rest pain were treated with Tegretol. Ulcers were dressed on alternate days, with antibiotics based on culture and sensitivity. Patients were advised strict abstinence from smoking for the rest of their life, avoidance of cold and prevention of mechanical, chemical and thermal injury. Buerger's exercise was taught to improve tolerance to pain and anaemia was corrected by blood transfusion.

Lumbar sympathectomy was done in patients who presented with ulcer, gangrene and rest pain. The sympathetic chain removed was sent for biopsy and the same confirmed.

Patients with toe gangrene underwent disarticulation of the respective toes at the metatarsophalangeal joint at the time of surgery. Improvement in warmth and decrease in rest pain was assessed in the immediate followed up for healing after surgery in minor OT and OPD. Only 5 patients underwent this surgery.

Patients who had no improvement or deteriorated in their symptoms such as rest pain and spread of gangrene were amputated (below knee / above knee). The vessels dissected from the amputed specimens were sent for biopsy.

RESULTS

The right lower limb involved in 20pts and left lower limb involved in 12pts.The total lower limb involved in 30 pts. The upper were never found to be involved alone. In 02 cases both right and left lower limbs were involved and in one case both lower limbs and right upper limb was involved(involvement of 3 limbs),uni lateral limb involved in 28 pts and bilateral involved in 02 patients.

Involvement of Dorsalis pedis and posterior tibial was seen in 30 patients, Anterior tibial at involved in 20 patients. Popliteal artery was involved in 27 cases and Femoral in 3 case. Radial and Ulnar arfteries were involved in 1case clinically.

Majority of patients in the study smoked bidis and few patients smoked cigarettes. 67 % of patients started smoking in the age group of 15-25 yrs.

Maximum No of bidis smoked per day was 30. Maximum period of tobacco usage was for 25 yrs.

Incidence of presenting signs and symptoms
Presenting signs And symptoms

Presenting signs and symptoms	No. Of cases	Percentage
Intermittent Claudication	30	100
Ulcers	17	56.78
Phlebitis migrans	12	40
Rest pain	24	80.00
Gangrene	23	76.66
Absent peripheral pulsation	30	100

TREATMENT

Five pts underwent lumbar sympathectomy. All of them are treated conservatively for the same disease.Lumbar sympathectomy helped heal 60 % of ulcers and helped relieve rest pain in 80 % of patients and subjective improvement of 80% in claudication pain was observed.

All patients underwent conservative treatment.10 % of the patients were relieved with rest pain & claudication pain.Whereas no patient was relieved from ulcer.

Amputations

Amputation	No of patients	Percentage
Minor	03	10
Major	20	66.66

DISCUSSION

It can be appreciated from this study that this disease involves all the four limbs. It affects young men in the 3rd and 4th decade of life.

In this study among the 30 patients studied 60% of patients were diagnosed in the third decade and 30% (9 cases) were diagnosed after the age of 40 years.

Ulcer formation in the past history had occurred in 45.2%, which was the most common in toes (85.9%). Failure of smoking cessation significantly affected the risk of ulcer formation (odds ratio=1.71, 95% CI=1.19-2.47; P=0.004) and amputation (odds ratio=2.73, 95% CI=1.86-4.01; P<0.0001). Clinical features in female patients with TAO were equal to those in male patients, except for the fact that non-smokers were more common in female patients. Abstinence from tobacco significantly reduces the risk of ulcer formation and amputation, and thus improves the quality of life in patients with TAO reported that incidence of age of TAO is 4th decade and 94% of patients were men.

Right lower limb was involved in 20 cases and left lower limb in 12 cases.

Total lower limbs involved in 30 patients. The upper limb alone never involved and 02 patient had bilateral lower limb involvement and 01 patients had one upper and bilateral lower limb involvement, unilateral limb involvement more common than bilateral limb involvement. patients, upper limb involved in 28% of patients and lower limb involved in 46% of patients.

In this study 01 (3.33%) cases had both upper and lower limb involvement.

In our study All patients have lower limb involvement and upper limb involved rarely and above mentioned studies showing lower limb are affected more than upper limb and they reported that limb involved bilaterally in major cases.in our study also shows bilaterally in major cases.

In this study involvement of Dorsalis pedis and posterior tibial arteries are seen in 100 % of patients, anterior tibial involved in 66% of patients ,popliteal artery involved in 90% of patients and radial and ulnar arteries involved in 3.33% of patients. In our study most commonly segmental small to medium sized arteries are involved in Thromboangitis

All patients (100%) presented with claudication and absence of arterial pulsations.56.78% of cases presented with ulcer, 76% of patients had gangrene and 80% of patients had rest pain in this study. There was no incidence of Raynaud's phenomenon in this study. Superficial thrombophlebitis was seen in 40 % of patients. In this study ulcerations and gangrene are more commonly presented by patients.

Treatment

Complete cessation of smoking was strongly advised as it is the mainstay of therapy. A variety of drugs were used in the medical management which include Tab Aspirin 150 mg od, Tab Trental400 mg tid, Tab Pletoz(Cilostazole) 100 mg bd(in affordable patients as it is an expensive drug). Analgesics were used to relieve pain. All patients were underwent conservative theraphy but only 10% were benefitted from the conservative therapy and 23 patients were under-went surgery.

In this study of 152 patients intravenous iloprost was more effective than low dose aspirin for relief of rest pain and healing of trophic lesions in patients with TAO. After 21-28 days of treatment, 85% of Iloprost – treated patients showed ulcer healing and relief of ischaemic pain compared with 12% in the aspirin treatment group. Ulcer healed completely in 35% of patients treated by Iloprost injection compared to 13% in aspirin treated group. Six month after treatment 88% of patients responded to IV Iloprost when compared to 28% patients treated with aspirin. They randomized patients into both receiving oral aspirin 150mg/day and 6h daily placebo injection or a placebo tablet identical to aspirin and 6h infusion of Iloprost with graded doses to a maximum of 2ng/kg per minute for 4-28 days/until the patients symptoms and signs had completely resolved. Their findings suggest that IV Iloprost for 21-28 days is well tolerated and has a greater efficacy than low dose aspirin on symptoms and signs in patients with TAO. Ischaemic ulcers healed in three of five limbs in four patients, and the other two patients had relief of pain at rest.

In this study Lumbar sympathectomy was carried out in 05 patients and was able to relieve rest pain in 80% of patients and ulcers healed within 2 months in 60% of patients.Twenty patients underwent major amputations for distal lower limb gangrene and three underwent minor amputation with disarticulation of the gangrenous toes because these patients continued smoking after initial theraphy.

CONCLUSION

Thromboangiitis obliterans is a peripheral vascular disease which usually affects young males, involves predominantly the lower limbs than upper limbs.The youngest patient was 22 years old and the oldest was 48 years old. No familial incidence was seen in my study.

56.78 % of patients studied presented with ischaemic ulceration and 76% gangrene, 80% with rest pain and all patients had grade III intermittent claudication. The right lower limb was involved in 20 patients, the left lower limb in 12 patients, right upper limb in 01 cases, and both lower limbs were involved in 2 patients. All patients were smokers and patients who smoked more than 20 bidis per day had more severe disease than those who smoked less.

All patients underwent conservative therapy.10%of patient however benefitted from conservative therapy. 05 patients underwent lumbar sympathectomy. Lumbar sympathectomy was able to relieve rest pain in 80% of patients, helped heal ulceration in 60% patients and improved claudication distance in 80% of patients. 20 patients who had progressive gangrene after conservative treatment and lumbar sympathectomy underwent major amputation. Majority of cases (66.66%) underwent amputations because patients continuously smoked after intial conservative therapy and lumbar sympathectomy and late presentation of the disease after gangrene was set in. In summary a total of 33.33% of limbs were salvaged after conservative and surgical treatment.

SUMMARY

TAO is a non-atherosclerotic, segmental, inflammatory disease that affects the small and medium-sized arteries and veins in the lower and upper extremeties. Discontinuation of tobacco is mainstay of the treatment. Limb loss is evident in who continued smoking after initial conservative therapy and lumbar sympathectomy. In patients who successfully stop smoking, amputation almost never occurs. Other forms of therapy are palliative.

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