

Full Length Research Paper

The role of intralesional Pingyangmycin in the treatment of nasal polyp in aged population

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This study is to investigate the effect of intralesional Pingyangmycin injection in nasal polyp. 82 patients with nasal polyp were treated with intralesional Pingyangmycin injection from September 2001 to September 2006. After a minimum follow-up of 2 years, 67 patients (81.7%) developed 76 to 100% regression in their lesions; 17 patients (18.3%) had 51 to 75% regression in their lesions. No changes in renal function or cytopenias were encountered and no changes were found with chest X-ray during the course of therapy. Thus, intralesional injection of Pingyangmycin seemed to be an effective, safe and inexpensive method to treat nasal polyp, especially in patients not suitable for surgeries.

Key words: Pingyangmycin, nasal polyp, intralesional, aged.

INTRODUCTION

Nasal polyp is a common disorder that occurs in the nasosinus region and can be treated with different surgical methods. However, there were many patients with recurrence after surgery, or they are intolerant to the surgery. Agents like bleomycin have now been used for percutaneous sclerotherapy for venous malformation in the head and neck (Zheng et al., 2010). Pingyangmycin (PYM) was extracted from one type of fungi at Pingyang (South-East Zhejiang Province of China), which is a subbranch of bleomycin A5. The therapeutic effect is derived from its endothelial toxicity. Because of the low cost, safety and ease of availability, we have used PYM for over 20 years in the treatment of venous malformation and nasal polyp in Xi'an Jiaotong University Hospital. The aim of this study therefore is to evaluate the safety and efficacy in treating nasal poly using PYM.

MATERIALS AND METHODS

Fifty four (54) patients (male 37, female 17, range from 49 to 84 years old, mean age 63.1±5.3 years old) referred with nasal

polyp were treated with intralesional Pingyangmycin injection from September 2001 to September 2006 as shown in Table 1. Informed consent was obtained from the patient and this study has been approved by Institutional Review Board of our hospital.

Treatments could be given to the patients with normal examination results from X-ray in lungs, routine blood tests and urine test before surgery. 8 mg PYM dissolved in 5 ml 0.9% sodium chloride and 3 ml 2% lidocaine was injected from the front part of polyp through a long tiny injector advancing with slow injection. During injection, the polyp became pale and swelling. The injection was given once a week and the period of treatment was 4 to 6 times. Antibiotics were used only in patients with infected lesions. All patients underwent monthly hemogram, renal function tests and chest X-ray prior to each injection to evaluate for toxicity.

RESULTS

Fifty four (54) patients presented an esthetic complaint, 17 with pain and 3 with bleeding. 3 days after the first injection of Pingyangmycin, 5 cases experienced some inflammatory symptoms consisting of a febrile response and 5 cases complained of a degree of swelling. These were the only side effects. The fever lasted 1 day after injection and disappeared next day without any treatment. Five cases complained the local swelling, which was not obvious after injection and resolved after 1 week without any therapy. All patients stated improved ventilation after 5 days.

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Table 1. Patient characteristics.

Characteristics	Patients no.
Sex	
Male	47
Female	32
Mean age (years)	63.1
Accompanying disease	
Hypertension	46
Cardiac disease	41
Diabetes	38
Asthma	51
Rheumatoid arthritis	16
Stroke	11
Recurrent polyp	
One surgery	24
Two surgeries	13
Three surgeries	9
Four surgeries	5
Accompanying symptoms	
Nose obstruction	65
Dizzy	46
Loss of olfaction	27
Headache	18
Pus snivelling	32
Blood snivelling	24
Refusing surgery	46
Intolerance of surgery	33

Table 2. The effects after treatment.

Symptom	Effective (total cases)	Percentage (%)	Length of time
Nose obstruction	45 (65)	100	4.3
Dizzy	1 (46)	30.4	29
Loss of olfaction	5 (27)	18.5	87
Headache	5 (18)	27.8	46
Pus snivelling	16 (32)	50	13
Blood snivelling	17 (24)	70.8	9

No changes in renal function nor cytopenias were encountered. No patients developed chest X-ray changes during the course of therapy. There were no mortalities. After the second injection, the lesions began to regress and the swelling disappeared. Significant regression was apparent after an average of 3 weeks of treatment. The longest time of treatment was 2 months and about 10 injections were administered; the results of these treatments are shown in Table 2. Sixty-seven patients (81.7%) developed 76 to 100% regression in their lesions

(Figures 1 to 3); 15 patients (14.6%) had 51 to 75% regression in their lesions. The patients were followed for at least 1 year and no enlargement in the lesion or recurrence was observed during the period.

DISCUSSION

The common treatment for nasal polyp is excision by Surgery (DeMarcantonio and Han, 2011). However, this

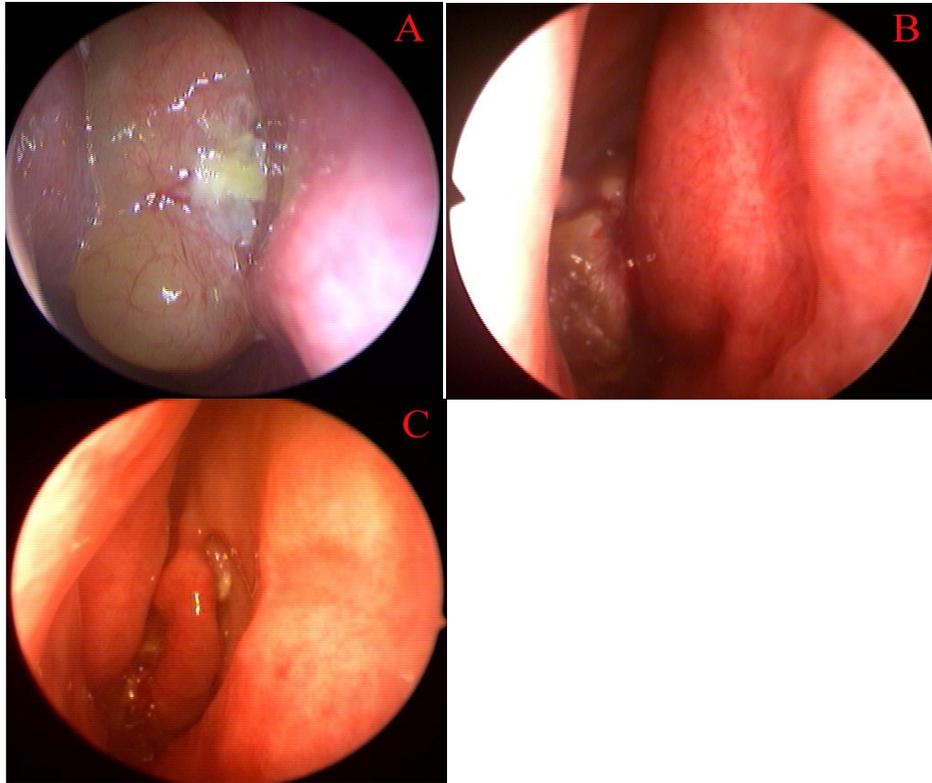


Figure 1. Patient 1; A: Before treatment; B: After one dose of PYM; C: After 3 doses of PYM.

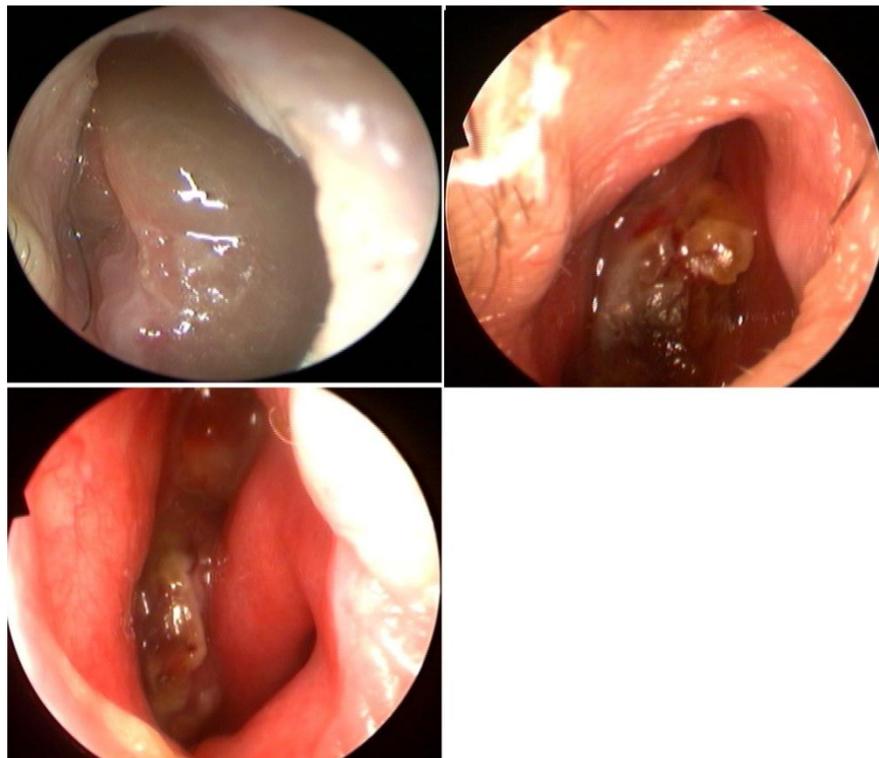


Figure 2. Patient 2; A: Before treatment; B: After 2 doses of PYM; C: After 3 doses of PYM.

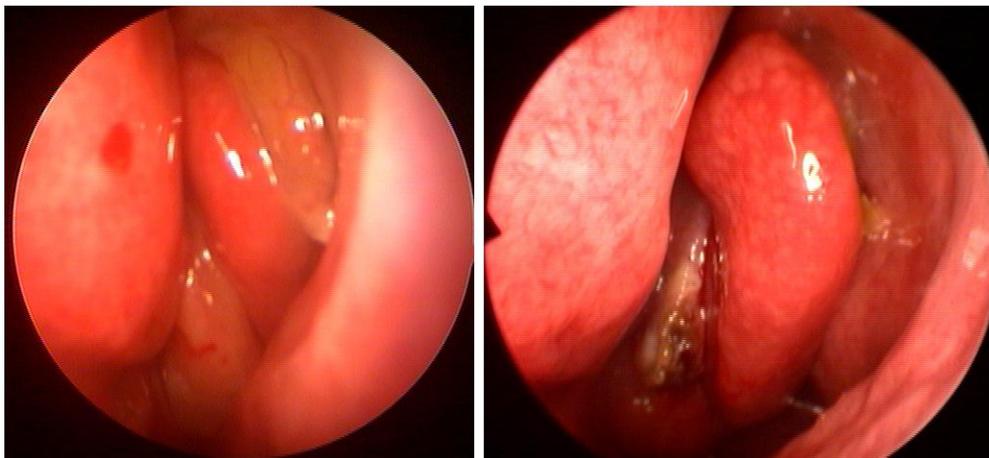


Figure 3. Patient 3; A: Before treatment; B: After one dose of PYM.

leads to incidences of hemorrhage, with a high recurrence rate or even a tendency to deterioration. The percentage of old patients is dramatically increasing in recent years, which also limited the implement of surgery especially several times of surgeries.

PYM is consisted of monoconstitution of Bleomycin A5, which could kill and prohibit the proliferating cells. Previous studies have been extensively applied in the cures of some benign tumors and heoplasms. Satisfying results can be got in the treatment of pedolymphangioma, hemangioma of maxillofacial regions and pterygium etc. In view of the pathogeny of the formation of polyp may had some relation to allergy, steroid hormone were adopted by Hartwig (1988), etc. in part or whole of body to decrease the recurrent rate. However in a long term perspective, this kind of medicine should be avoided for the patients suffered from hypertension, diabetes, ulcer of digestive treat and glaucoma. In present study, different levels of improve-ments were obtained in the 82 cases of nasal polyp group after one period of treatment.

The allergic reaction (fever) is among the common harmful reactions which occur in clinical application of PYM, with incidence of about 6.7% according to Shou Boquan (2008). We did not find this side effect in our handling. This might be because we used the dose of 40 mg in all period of treatment (>160 mg could cause lung fibrosis). Additionally, PYM can be used by intravenous

injection, intra-artiricl perfusion and intramuscular injection without hemolysis and the damage of the adjacent tissues. A few amount of lidocaine is added to dramatically reduce the pain during injection which is able to be accepted by the aged patients.

In the current study, intralesional injection of Pingyangmycin seemed to be an effective, safe and inexpensive method. This treatment has no serious side effects and does not produce any scars. We now favor Pingyangmycin sclerotherapy for nasal polyp in all cases for those who cannot bear surgery in our hospital.

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