

## ABSTRACT

**Background:** This study is to evaluate the necessity of prescribing prophylactic antibiotics for nasal packing in spontaneous epistaxis. There are few published papers of infective complications in such patients.

**Methods:** This prospective study analysed 149 consecutive patients admitted to AL-Kindy teaching hospital with spontaneous, epistaxis, who underwent nasal packing over 2 years period. In the first year, 78 patients received prophylactic antibiotics, In the second year 71 patients were not given prophylactic antibiotics. Exclusion criteria included antibiotics prescribed for unrelated pathology and post-operative epistaxis. Signs and symptoms of acute otitis media, sinusitis and toxic shock syndrome were assessed using clinical examination and a questionnaire.

**Results:** Fourteen out of 149 patients experienced otalgia, mostly following posterior nasal packing. No patient in both groups had evidence of any infective complication.

**Conclusion:** we do not recommend the use of prophylactic antibiotics for patients undergoing nasal packing for spontaneous epistaxis.

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Received at 10/6/2018

Accepted at 14/11/2018

## INTRODUCTION

The practice of prescribing routine prophylactic antibiotics for patients underwent anterior and posterior nasal packing for spontaneous epistaxis, and the reasons behind this practice, vary greatly across UK ENT departments. A recent study found that 22 per cent of UK Clinicians did not routinely prescribe antibiotics in this clinical context, whereas 37 per cent prescribed antibiotics if nasal packing remained in place for more than 24 hours.<sup>(1)</sup>

The justification for such antibiotics usage is the reduction of the incidence of infective complications. Proposed complications associated with nasal packing include otitis media, sinusitis and toxic shock Syndrome. However, documented cases of such complications are very rare, and some cases were unreported.<sup>(2-4)</sup>

The objective of the current study was therefore to investigate whether non-prescribing prophylactic antibiotics for patients undergoing nasal packing for spontaneous epistaxis increases the risk of complications.

## METHODS

We studied a prospective case series of patients who were admitted to AL-Kindy teaching Hospital who underwent nasal packing for spontaneous epistaxis.

The first group of the study involved all patients were admitted as an in-patient between January 2008 and January 2009 for spontaneous epistaxis, Patients in this group were prescribed a 5-day course of oral prophylactic antibiotics. The antibiotic of choice was amoxicillin with clavulanic acid, at a dose of 625 mg three times daily: In patients with a penicillin allergy, clarithromycin was used at a dose of 500 mg twice daily.

The second group of the study involved all patients admitted for nasal packing with spontaneous epistaxis between February 2009 and February 2010 for These patients we did not prescribe prophylactic antibiotics after nasal packing ( Anterior and posterior).

The duration of nasal packing varied according to severity, and patient risk. factors like hypertension in which nasal packing removed when blood pressure controlled or those with bleeding tendency who require packing till correction of coagulation mechanism and soon, although in most individuals packs

remained in place for between 24 and 36 hours.

The outcome measures were assessed using fiberoptic nasendoscopy, otoscopy, Rinne and Weber tests, biochemical markers of inflammation (including C-reactive protein), and a questionnaire evaluating symptoms of sinusitis and otitis media experienced before discharge. The questionnaire also evaluated facial pain, purulent nasal discharge, otalgia and hearing loss. Any patients who developed symptoms, suggesting a complication, further investigation might include tympanometry, pure tone audiometry and computed tomography of paranasal sinuses.

Exclusion criteria included antibiotics prescribed for unrelated pathology, post-operative epistaxis, cardiac anomalies and epistaxis requiring surgical intervention.

## RESULT

Seventy-eight patients were admitted into the study in the first year period. Seventy-six patients were packed with Merocel and five were packed with a bismuth iodofom paraffin paste dressing and Foley catheter. Three patients underwent Merocel packing initially, then subsequently required bismuth iodofom paraffin paste dressing and Foley packing. Six of the 78 patients complained of otalgia, although all had a normal Rinne and Weber test and normal tympanic membranes on otoscopy. The incidence of otalgia with anterior and posterior nasal packing is shown in Table I. All other outcome measures were negative.

None of the patients developed sinusitis, otitis media, toxic shock syndrome or any other type of complication.

Seventy-One consecutive patients were included in the study in the second year period, 68 of them were packed with Merocel and nine were packed with a bismuth iodofom paraffin paste dressing and a Foley catheter. Six patients underwent Merocel packing initially, then subsequently required a bismuth iodofom paraffin paste dressing and a Foley catheter. Eight of the 71 patients complained of otalgia, although all had normal Rinne and Weber test and normal tympanic membranes on otoscopy. Table II shows the incidence of otalgia in

patients with anterior and posterior nasal packing. All other outcome measures were negative.

None of these patients developed sinusitis, otitis media, toxic shock syndrome or any other type of complication.

## DISCUSSION

Seventy-eight patients were admitted during the first limb of the study, five (6 percent) of whom were packed with bisuth iodofom paraffin paste dressing and a Foley catheter. Four of these five patients complained of otalgia, compared with only two of the 76 patients packed with Merocel.

Of the 71 patients who were admitted in the second limb of the study, nine (13 percent) were packed with bismuth iodofom paraffin paste dressing and a Foley catheter. Five of these nine patients complained of otalgia, compared with three of the 68 patients packed with Merocel.

Otalgia was the only complication noted in any of the patients admitted during study period, with a greater incidence in those packed with a bismuth iodofom paraffin paste dressing and Foley catheter, compared with Merocel packing. All patients with otalgia reported normal hearing, and had normal otoscopy and Rinne and Weber test results.

In the absence of clinical otitis media, a tympanogram was not conducted.<sup>(5)</sup> Hence, it can only be assumed that otalgia was either referred pain from the nasal packing or secondary to temporary negative middle-ear pressure.

A study by Biswas et al.<sup>(1)</sup> investigated the antibiotic prescribing practices of ENT clinicians across England, for nasal packing prophylaxis. They found that 22 % did not use antibiotics routinely, 5% used antibiotics in all patients undergoing nasal packing 37 % prescribed antibiotics for patients with packs in situ for over 24 hours, and 28 % prescribed antibiotics if packs remained in situ for over 48 hours. Clinicians' reasons for prescribing prophylactic antibiotics included preventing associated toxic shock Syndrome, sinonasal infection and middle-ear infection.

The outcome measures of our study were designed to detect the presence or absence of these and other complications. Although

otalgia was present in 14 of the 149 patients studied, there was no evidence of acute otitis media or otitis media with effusion, There was also no evidence of sinonasal infection or toxic shock syndrome. Further examination of the literature surrounding these potential complications revealed limited evidence of infective complications of nasal packing for spontaneous epistaxis. Thompson and

Lastly Bajaj Y. et al mentioned the necessity of using nasal pack after septal surgery and reported that discomfort and pain are the main drawback.<sup>(14)</sup>

Toxic shock syndrome is a rare, multisystem illness characterised by the

**TABLE I**  
**OTALGIA IN PATIENTS PRESCRIBED ANTIBIOTICS**

Packing type	Patients (n)	Otalgia (n (%))
Meroceel	76	2 (2.6)
BIPP & Foley	5	4 (80)

BIPP & Foley = bismuth iodoform paraffin paste dressing and Foley catheter

Crothers<sup>(2)</sup> published data on 63 patients who underwent nasal packing following septal surgery, in whom middle-ear pressure was examined, They found 46 per cent of the 126 ears examined showed a reduction in middle-ear pressure of greater than 50 daPa on tympanometry. Of these 58 ears, 76 per cent became normal within 24 hours.

McCurdy<sup>(6)</sup> also found a reduction in middle-ear pressure associated with nasal packing, particularly in patients receiving posterior nasal packing.

These authors' findings provide evidence for Eustachian tube dysfunction with nasal packing, but without the occurrence of middle-ear effusions.

Biswas et al<sup>(1)</sup> found that some clinicians prescribed prophylactic antibiotics for patients undergoing nasal packing in order to prevent toxic shock syndrome.

Bresniham M et al, found in his study that meroceel nasal pack contribute to some pack-related discomfort and pain (10)

While Ardehali MM et al reported incidence of vasovagal reflex, allergy, toxic shock syndrome, Eustachian tube dysfunction and respiratory disorders in his study to patient having nasal packs after septoplasty.<sup>(11)</sup>

On other hand Basha SI et al and berlucci M. et al found that infective complications are very limited using resorbable nasal packing following endoscopic ???surgery.<sup>(12-13)</sup>

**TABLE II**  
**OTALGIA IN PATIENTS NOT PRESCRIBED ANTIBIOTICS**

Packing type	Patients (n)	Otalgia (n (%))
Meroceel	68	3 (4.4)
BIPP & Foley	9	5 (55.6)

BIPP & Foley = bismuth iodoform paraffin paste dressing and Foley catheter

sudden onset of pyrexia and rash, with progression to shock and multi-organ failure.

However, there is no published evidence of toxic shock syndrome occurring in patients with nasal packing, in the absence of nasal surgery. Toxic shock syndrome can occur with nasal packing in the post-operative period, and certainly must be considered in this situation.<sup>(7)</sup>

An additional reason for clinicians prescribing antibiotics for patients with nasal packing is to prevent sinonasal infections.<sup>(1)</sup> During our study, no patient complained of any symptoms suggesting sinusitis, Ogawa et al.<sup>(8)</sup> noted the presence of an air fluid level in the sphenoid sinus in some patients with nasal packing, but without any signs of infection, The literature does not provide clear evidence of nasal packing causing infective sinusitis. Furthermore, it is accepted practice for patients with chronic rhinosinusitis to undergo nasal packing following functional endoscopic sinus surgery, despite their predisposition to impaired sinus drainage.<sup>(9)</sup>

**CONCLUSION**

Overall, there appeared to be little standardisation in antibiotic prescribing practice for patients undergoing nasal packing for spontaneous epistaxis, and little published evidence to support infective complications, In our study, we found no evidence of infective complications in any patient. As a result, we do not recommend

the routine use of prophylactic antibiotics for patients undergoing nasal packing for spontaneous epistaxis.

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