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Antibiotic prophylaxis—a survey

by

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Introduction

Numerous factors are known to predispose to post-operative infection, for instance: patient's age, pre-operative clinical condition and inappropriate surgical technique. However, despite all care taken, wound infections are a significant cause of operative morbidity and occasional mortality.

The use of prophylactic antibiotics to further reduce infection is controversial. The aim of this paper is to report upon a questionnaire sent to Consultant Otolaryngologists in order to assess their views and use of prophylactic antibiotics.

Method

One hundred and fifty-three otolaryngological surgeons in the United Kingdom were circulated with our questionnaire. The questionnaire consisted of four sections. The first three covered otology, nasal and sinus surgery, and head and neck surgery. The final section sought additional comments regarding the usage of antibiotics in the preceding sections.

Each of the first three sections were subdivided into two parts. The first was to qualitate and quantify the use of prophylaxis for commonly performed procedures. The second sought details of antibiotic regimes used.

Results

Of the 153 questionnaires posted, 119 (77.7 per cent) were returned, 11 were returned because either address had changed or the consultant had retired. One hundred and eight (70.5 per cent) were analysed.

Section 1—Otology

Table I shows the use of antibiotics in relation to four procedures. Twenty-five per cent of the surgeons never used any form of prophylaxis. However, those who occasionally or routinely did (75 per cent) commonly prescribed a single drug (79 per cent) given orally (80 per cent) for a median duration of 5 days.

Section 2—Nasal and sinus surgery

Table II shows the prescribing habits for four procedures. Fifty-eight per cent of surgeons never used antibiotics. Again, single agents (93.5 per cent) given orally (85 per cent) for a median duration of 5 days were commonly prescribed by surgeons using prophylaxis.

Section 3—Head and neck surgery

Table III shows the use of antibiotics in various head and neck operations. Twenty-seven per cent of surgeons never used anti-

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TABLE I
USE OF PROPHYLAXIS
Otology

Procedure	Never %	Occasionally %	Routinely %
Tympanoplasty/Myringoplasty	41.2	24.3	34.5
Stapedectomy	36.8	10.4	52.8
Mastoidectomy	46.2	33.0	20.8
Otoplasty	66.3	15.4	18.3

TABLE II
USE OF PROPHYLAXIS
Nasal and sinus surgery

Procedure	Never %	Occasionally %	Routinely %
Septal surgery	85.2	9.3	5.5
Rhinoplasty	71.0	15.0	14.0
External sinus surgery	73.1	14.9	12.0
Trans-antral surgery	70.7	17.0	12.3

TABLE III
USE OF PROPHYLAXIS
Head and neck surgery

Procedure	Never %	Occasionally %	Routinely %
Radical neck dissection	48.1	24.5	27.4
Parotid surgery	80.6	9.7	9.7
Thyroid surgery	90.5	4.2	5.3
Laryngectomy	35.0	15.0	50.0
Total pharyngo-laryngectomy	35.4	9.0	55.6
Combined resection of jaw and floor of mouth	38.2	12.8	49.0

biotics in any of these procedures. The prescribing habits differed compared with the two preceding sections. Combination therapy was used by 56 per cent of surgeons using prophylaxis, parenteral administration being initially used by 50 per cent.

The median duration of administration was 6 days.

Various antibiotics were used in all sections and hence were impracticable to analyse. Overall 15 surgeons (13.8 per cent) never used prophylaxis for any of the procedures listed, but two surgeons routinely used prophylaxis. As would be expected with a survey of this nature, the additional comments were extremely varied. Some of the points are discussed.

Discussion

The 108 replies represent nearly 30 per cent of consultants in post (DHSS Medical Manpower Division, 1983). Being randomly selected, the pooled results of individual replies give some insight into today's trends in the use of prophylaxis.

Ever since the advent of antibiotics their use for prophylaxis has been controversial. The results show that differing views exist for all operations listed in the survey, routine prophylaxis being used mainly in stapes surgery and for those major head and neck procedures at which the mucosa of the upper aerodigestive tract is breached. There is more uniformity in not prescribing antibiotics for nasal

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and sinus surgery, parotid and thyroid procedures.

Only two surveys could be found for comparison. The first (Eschelman *et al.*, 1971) surveyed 400 otolaryngologists but was not very specific. There was a higher proportion of surgeons (30 per cent) never using prophylaxis. The non-use of prophylaxis for ear surgery (20 per cent) and for head and neck procedures (24 per cent) were comparable. However, increased use of antibiotics was reported in nasal and sinus surgery. A larger survey of 1,391 plastic surgeons was reported by Krizek *et al.*, (1975), and their relevant results were similar to ours.

Considering some of the additional comments raised, important factors influencing the surgeon to give prophylaxis were: use of prosthesis/implants, prolonged surgery, previous radiotherapy, extremes of age, and poor pre-operative clinical state. Interestingly, some replies suggested that antibiotics should be used for some operations for potential medico-legal reasons.

With the low incidence of wound sepsis following most ENT surgical procedures, controlled trials to assess prophylaxis scientifically would be a major undertaking. Most surgeons therefore rely on their own clinical impressions. Though prophylaxis may often be beneficial, disadvantages do exist. Prophylaxis will not produce a 'sterile' field (Robin, 1981) and used incorrectly may allow emergence of resistant bacteria and consequent superinfection.

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