PRACTICE OBSERVED

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Practice Research

Policies on antibiotics of south east London general practitioners for managing acute otitis media in children

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Abstract

Questionnaires on antibiotic treatment of acute otitis media in children were sent to the general practitioners who make regular referrals to clinics in the King's College Hospital group. The most popular first choice of drug was amoxycillin (44%), but 37% of general practitioners said that they often used oral phenoxymethylpenicillin. This drug has relatively low activity against *Haemophilus influenzae* and many strains of *Staphylococcus aureus*. It is poorly absorbed from the stomach, does not penetrate the middle ear well, and its use may be one factor in the development of chronic middle ear effusions after acute otitis media. Sixty-two per cent of the doctors who replied never treated acute otitis media with intramuscular antibiotics, but 57% used oral loading doses. Ninety-seven per cent never treated their patients without antibiotics.

Introduction

The treatment of acute suppurative otitis media with antibiotics has been suggested as one reason for the apparent increase in the incidence of chronic secretory otitis media.¹⁻⁴ In studies of acute otitis media in general practice conducted during the 1950s and 1960s intramuscular benzylpenicillin was reported to be the most commonly used treatment for acute otitis media.⁵⁻⁷ At that time the most common pathogen cultured from such cases was *Staphylococcus aureus*, and of these, 40% were resistant to penicillin.⁸ Nowadays the most

commonly isolated organisms are *Streptococcus pneumoniae* and *Haemophilus influenzae*.⁹

Bacteria can sometimes be isolated from chronic middle ear effusions. Once again, *Strep pneumoniae* and *H influenzae* are the organisms most commonly found. Lim et al, in an American study, found that 43% of *H influenzae* isolated from cases of chronic secretory otitis media were resistant to ampicillin.¹⁰ In our own similar study (Mills, Unley, McIntyre, unpublished) of children drawn from ear, nose, and throat clinics in the King's College Hospital group all the strains of *H influenzae* so far isolated from the middle ear have been sensitive to ampicillin. Half of them, however, have proved to be resistant to penicillin. In addition, we have isolated strains of *Staph aureus* resistant to penicillin and of *Strep pneumoniae* resistant to trimethoprim. Thus I thought that it would be interesting to find out how local general practitioners manage acute otitis media in children.

Method

Questionnaires were sent to all doctors who make regular referrals to the ear, nose, and throat clinics in the King's College Hospital group of hospitals. At the head of each questionnaire was the definition of acute otitis media given by Fry.¹¹ Beneath this were seven questions on the use of antibiotics in the treatment of acute otitis media in childhood (see table 1). Each questionnaire was accompanied by a letter inviting the doctor to complete it and return it to me in the stamped addressed envelope provided.

Results

Of 207 questionnaires distributed, 156 (75%) were returned completed and a further four were returned blank because the doctor was no longer at the address in the hospital records. The most popular first choice drug was amoxycillin (44%), though 28% stated that oral phenoxymethylpenicillin was their first choice. In answer to question 1, 9.6% reported that they used amoxycillin at first

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MRCGP Examination

An MRCGP course for trainees in the West Midlands region

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Abstract

I describe a course for trainees in Birmingham and Lichfield in January 1983 to prepare them for the summer examination for membership of the Royal College of General Practitioners. The trainees rated the course highly in both content, and in particular liked the small group work for the oral examinations. Of 24 trainees who attended, however, only 15 sat and 11 passed the examination. I describe the course content and discuss the possible reasons for the small number of trainees going on to sit the MRCGP examination.

Introduction

At their national conferences trainees have expressed anxiety about the MRCGP qualification becoming "obligatory" in the scramble for jobs in general practice.¹ Although the West Midlands is the largest region, it has lagged behind others in the percentage of trainees taking and passing the examination.^{2,3}

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Therefore, I organised a course for the MRCGP for trainees in this region.

My aims were: (i) To explain the aims of the Royal College of General Practitioners, including its educational and research activities; (ii) To describe each part of the MRCGP examination; (iii) To explain the marking system; (iv) To give practical experience in taking each part of the examination and to mark and discuss the answers as a group.

Personal accounts of taking the MRCGP examination have been published,^{4,5} and the experiences of retaking it have also produced some interest.⁶ There are, however, few descriptions of courses for the MRCGP examination. The Royal Army Medical College has run a five day course since 1973, which seems to rely heavily on college examiners.⁷ A study day for the MRCGP examination for overseas doctors has been organised since 1977 which highlights cultural variation in candidates' behaviour.^{8,9} In 1982 the college ran a course for candidates who had failed the MRCGP by using small group work.¹⁰

Method

I used the same timetable (table 1) but had different group leaders at each centre. The course took place on 6 and 7 January 1983 at the Queen Elizabeth Postgraduate Medical Centre in Birmingham, and on 20 and 21 January 1983 at St Chad's Health Centre in Lich-

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choice for children under 5 years of age and penicillin V for older children. Tables II and III give a full account of the answers to questions 1 and 2.

Fifty-seven per cent used oral loading doses at the start of treatment; 62% never used intramuscular preparations; 31% seldom used them; 64% sometimes used them, and only 0.6% often managed

TABLE 1—Questionnaire sent to general practitioners referring children to King's College Hospital

Management of acute otitis media in children
Definition: "Acute otitis media is an acute condition with earache and a red drum or with sudden onset of discharge from an ear, either following earache or arising de novo with no previous history of ear disease" (Fry, 1958).¹¹

- Which antibiotic do you most often use in the treatment of acute otitis media?
First choice
Second choice
Third choice
- Which of the following drugs do you use and how often? Tick one column for each drug please

Antibiotic	Often	Sometimes	Seldom	Never
Penicillin V				
Penicillin G (intramuscular)				
Ampicillin				
Amoxycillin				
Erythromycin				
Co-trimoxazole (Septrin)				
Cephalexins				
Other please specify				

- Do you ever use a higher initial dose before proceeding with your normal dosage schedule? (Please ring either "yes" or "no.")
Yes No

- Do you use intramuscular antibiotics in the treatment of acute otitis media and if so how often? (Please ring one of the following)
Often
Sometimes
Seldom
Never

- What dosage of antibiotic do you use in the following age groups?

	First choice drug	Second choice drug	Third choice drug
0-3 years			
3-7 years			
7 years and over			

- How long a course do you normally prescribe? (Please ring one of the following)
Three days
Five days
Seven days
Ten days
Other please specify

- Do you sometimes manage acute otitis media without antibiotics, and if so how often? (Please ring one of the following)
Often
Sometimes
Seldom
Never

TABLE II—General practitioners' first, second, and third choice of antibiotics answers to question 1

First choice (%)	Second choice (%)	Third choice (%)
Amoxycillin 44	Erythromycin 28	Erythromycin 12
Penicillin V 28	Co-trimoxazole 24	Co-trimoxazole 12
Ampicillin 31	Ampicillin 13	Ampicillin 13
Erythromycin 19	Cephalexins 13	Amoxycillin 13
Co-trimoxazole 3	Penicillin V 13	Penicillin V 13
Clindamycin 1	Sulphonamides 1	Tetracycline 1

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their patients in this way. The answers to question 5 showed only minor variations from the dosage schedules advised by the manufacturers of the individual drugs.

The most common duration of treatment was five days: 50%. Forty-two per cent usually treated their patients for seven days, 12% for 10 days, 25% for six days, 0.6% for three days, and 0.6% for 14 days. Sixty-two per cent never managed acute otitis media without antibiotics; 26% seldom adopted this approach, 8.3% sometimes did, and only 1.3% often withheld antibiotics.

TABLE III—Frequency (%) of use of specified antibiotics (answers to question 2)

Drug	Often	Sometimes	Seldom	Never
Penicillin V	37	24	12	12
Penicillin G	1	6	24	69
Ampicillin	36	23	20	21
Amoxycillin	62	16	9	13
Erythromycin	36	15	19	30
Co-trimoxazole	17	24	22	37

Discussion

The results of a survey such as this give only a rough idea of actual clinical practice. Some of the trends shown by this study, however, are too strong to be dismissed on this basis. Most of the commonly used antibiotics (amoxycillin, ampicillin, erythromycin, and the cephalosporins) are adequately absorbed from the stomach, are active against the common pathogens, and penetrate the middle ear well.¹²⁻¹⁴ Their efficacy has been confirmed by clinical trials. The main exception is phenoxymethylpenicillin, which is not always well absorbed, has reduced activity against *H influenzae* and many strains of *Staph aureus*, and penetrates the middle ear adequately only during the acute phase of the illness.¹⁵ The use of penicillin for children over the age of 5, a practice advocated by the *British National Formulary*,¹⁶ is based on the belief that *H influenzae* infections occur only in the younger age group. Although the incidence seems to fall with increasing age,¹⁷ *H influenzae* remains an important agent until the age of 17.^{18,19} Co-trimoxazole penetrates the middle ear well,²⁰ but its usefulness may be limited by the reduced activity of trimethoprim against some strains of *Strep pneumoniae*. It remains a valuable agent against resistant strains of *H influenzae*.²¹

There has been a noticeable move away from the use of intramuscular antibiotics. The importance of this in terms of the outcome of treatment is difficult to determine because the more recently introduced antibiotics have several advantages over penicillin, as noted above. It may well be that, especially when an oral loading dose is used, these agents have an effect comparable with that of intramuscular penicillin. The answers to the question on the duration of treatment show that, as yet, those who advocate shortening the duration of treatment in acute otitis media have not won over many practitioners, at least in south east London.²²⁻²⁴ Withholding antibiotics, a practice that has also been recently advocated,²⁵ is even less popular. Though it might be a way of reducing the incidence of chronic effusions, it is likely that it would be accompanied by an increase in the prevalence of chronic suppurative otitis media, mastoiditis, and the other complications of the penicillinic era.

The results of this survey suggest that inappropriate antibiotic treatment, notably the use of phenoxymethylpenicillin, may be a factor in the pathogenesis of chronic middle ear effusions. It seems likely, however, that it plays only a minor part in this complex process.

I thank Professor John Bain, Dr John Whewell, and Dr John Wilmot for advice on the form of the questionnaire used in the study. I also thank Dr Anne Unley for advice on the bacteriological aspects of the paper.

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field. The course was non-residential. I obtained section 63 approval from the University of Birmingham. The group leaders were trainees and course organisers who had all recently passed the examination. I prepared an eight page booklet (A4 size) in which I described the aims of the college, each part of the examination, and recommended reading. The Medical Services Liaison Division of Upjohn kindly duplicated and bound the booklets. Each candidate received one at the start of the course. The college headquarters also supplied notes on Membership, Associateship and the Membership Examination and the new booklet *Looking Forward*. Some weeks before the course began I sent candidates their log diaries and asked them to complete and bring them to the course as they would be used in the oral examinations.

TABLE 1—Timetable for the course for the MRCGP examination

Thursday	Friday
9.00 Registration	9.15 Traditional essay question
10.00 Discussion to the examination	10.00 Essay question
10.45 Multiple choice question paper	10.45 Essay question
11.15 Coffee	11.15 Coffee
11.30 MRCGP examination	11.30 Marking and discussion
12.15 Lunch	12.15 Lunch
13.00 Marking and discussion	13.00 Lunch
14.00 Modified essay question paper	14.00 Tea
14.30 MRCGP examination	14.30 Essay round up
15.15 Marking and discussion	15.15 Essay round up
17.00 Close	17.00 Close

Course

Introduction—I set out the aims of the course and described the MRCGP examination, including fees, pass rates, and dates of the next examination.

Multiple choice question paper—I prepared a paper of 30 questions and verified the correct answers. I described the subjects covered, the marking system, and computer sheets in the oral examinations. After sitting the paper we marked and discussed each answer.

Modified essay question paper—We discussed the setting and marking of this paper, and the examiners' answer schedule. Next, the candidates answered a paper of 10 questions. After tea and much discussion the group produced a first class answer.

Traditional essay question paper—I described how to write a logical answer using a plan and writing in plain English. Then the candidates answered a question from a previous examination paper. We discussed the answers. Some suggested getting the "correct" answer and marking schedule from the college. (A senior examiner has told me that this is never allowed.)

Log diary and oral examination—I described the oral examinations: the first on the log diary and the second on problem solving. A video tape from the University of London narrated by Professor Paul Grob gave a realistic flavour and some good tips.

Oral examination—small group work—Each tutor took three candidates for an oral examination, using the log diaries. Each candidate had a turn as an examiner and a candidate, with guidance from the tutor. Most candidates had large gaps in their knowledge, even in their own 50 cases, and especially in practice organisation. The small group work proved very popular, and candidates rated this very highly.

Course assessment—Dr A H E Williams assessed the course, using assessment sheets with a numerical scale (0 for least use, up to 5 for most use). I was pleased to find very good scores especially for the small group work.

Discussion

I felt that the course was a success at the time and received high assessments from the trainees. The outcome in terms of the numbers sitting and passing the examination, however, was a surprise (table II).

Why did so few sit the MRCGP examination at the end of the training year? Perhaps some of the trainees who were required, had put off some candidates. Perhaps the answer lies elsewhere. A recent visit by a team from the Joint Committee

TABLE II—Numbers of trainees attending courses and passing the MRCGP examination in July 1983

	Birmingham course	Lichfield course	West Midlands region (overall)
No. of candidates	24	1	25
Not applying to sit	4	0	4
No passing	6	0	6
Pass mark	67	83	77

for Postgraduate Training in General Practice detected ambiguity among trainers and trainees towards the examination, and many trainees seemed to encourage their trainees to defer sitting until well after the training year. It seems that a two day course, however well received by the trainees, has less influence than the one to one contact in the training practice. This question remains unanswered, but is open for further study.

I intend to run the course each year. Perhaps I may be able to change the trainers' ideas. I realise, however, that it may take several years to reach the entrance and pass rates of other regions.²

I thank the group leaders who helped, Dr A H E Williams for assessments, Dr D G Scott for organisation, Dr D J Pereira Gray for advice and permission to discuss the contents of his visiting team, and Mrs Valerie Knight for secretarial services.

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ONE HUNDRED YEARS AGO The United States Consul-General at Cairo, in a report presented to his Government, attributes the origin of the epidemic to the unrestricted intercourse allowed with India, owing to English influence. He believes that the English Government interfered prejudicially with the action which "the Sanitary Maritime and Quarantine Council at Alexandria" proposed to take when a recrudescence of cholera in Bombay and Calcutta was reported in May and June. Unrestrained commercial intercourse led, he believes, to the importation of the disease. The unwholesome state of Damietta favoured the spread of the epidemic. It is always an exceedingly unhealthy town. "The exhalations there from decaying matter cause, every summer, ophthalmia and dysentery. It is also subject, during spring and summer, to a khamsin, a most oppressive hot wind, which carries with it clouds of dust and sand. When the cholera, according to the official report, appeared at Damietta on the 21st of last June, in a very short time it became epidemic. No remedies were employed. There was a thorough absence of medical attendance; and the poor natives, not knowing how to treat it, obstinately abandoned themselves to faith, and perished by thousands. About the middle of last June, a great fair was held at Damietta, which attracted over fifteen thousand visitors from neighbouring towns. At the time this fair was held, several Hindoo vendors displayed Damietta for purposes of trade, and also a certain number of cool-men and firemen, employed on English steamers coming from Calcutta." (*British Medical Journal* 1984;i:571.)