

Audit of abdominal pain in general practice

M.W. EDWARDS, BSc, MB, MRCP, MRCPG

W.M. FORMAN, MB

J. WALTON, MB

SUMMARY. An audit of 150 consecutive cases of abdominal pain presenting to an urban teaching practice between October 1983 and May 1984 was performed. The median duration of pain prior to presentation was two days. Females predominated in all age groups.

Eighty-nine per cent of these patients were managed entirely in the practice and of these, 52 per cent were managed with reassurance and advice alone, while 48 per cent also received a prescription. Only 15 per cent of patients were investigated in any way by the practice. Of the 17 patients (11 per cent) referred, nine were referred as emergencies and eight were admitted that day. However, there were only three true surgical emergencies in the entire series (one appendicitis, one intussusception and one fulminating pancreatitis).

Introduction

ABDOMINAL pain is a source of anxiety to many patients and their doctors. Even after taking a history and carrying out a careful examination the cause may not be apparent and the general practitioner is aware that the condition of the patient may change rapidly.

Both doctor and patient are concerned that there might be serious pathology requiring urgent admission and yet the general practitioner does not wish to burden the hospital service with unnecessary admissions for patients whose symptoms will quickly resolve with conservative treatment.

We decided to perform an internal audit of our management of patients presenting with abdominal pain as their main symptom. We aimed to assess the process by which we reached our diagnosis and decided upon management plans and also to study the appropriateness and patterns of our referrals and treatment.

Method

The audit was performed in an urban general practice serving a population of 8600 patients with three full-time partners, one part-time recently appointed principal, and one trainee. Between October 1983 and May 1984 three general practitioners recorded the following details of 50 consecutive patients who presented with the primary symptoms of abdominal pain: age, sex, brief history, details of examination performed and findings, initial diagnosis, investigations, treatment, follow up, and referral.

In December 1984 the case notes of these 150 patients were examined to provide details of outcome and hospital management if this had been necessary. Patients who were already being investigated or treated for abdominal pain were excluded from the study.

Dr M.W. Edwards, Trainee General Practitioner, Dr W.M. Forman, General Practitioner, and Dr J. Walton, General Practitioner, Swinton, Manchester.

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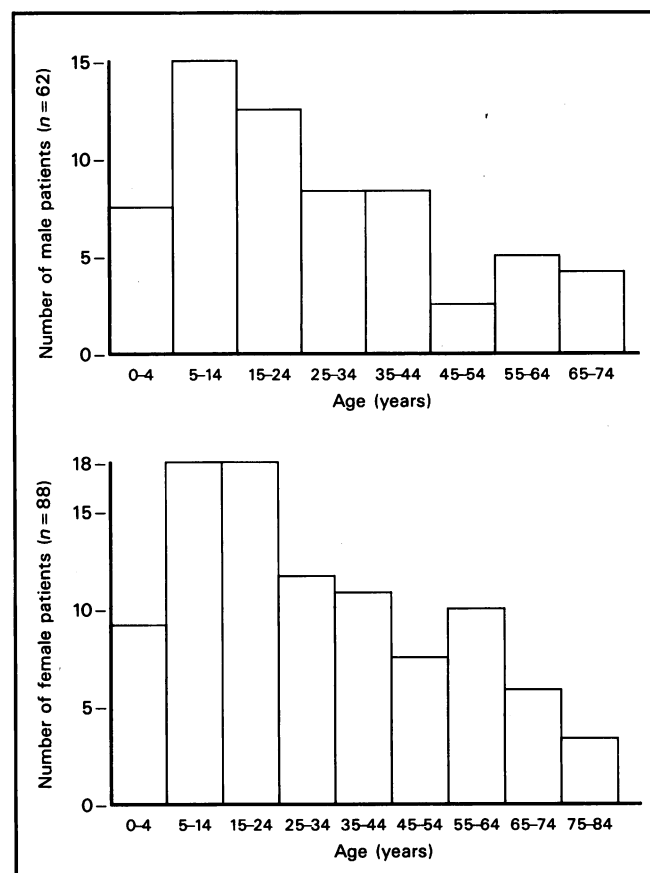


Figure 1. Distribution of patients with abdominal pain by age and sex.

Results

The distribution of the patients by age and sex is shown in Figure 1. Females predominated in all age groups.

History

The duration of pain prior to seeing the general practitioner varied from less than 24 hours (25 patients) to greater than six months (nine patients). Of the remaining patients 61 had experienced pain for one to three days, 16 for four to six days, 28 for one week to one month, 10 for one to six months and one patient was uncertain of the time course of the pain. The median duration of pain prior to presentation was two days.

Enquiries were made of the patients and/or their parents for specific symptoms relating to the urinary, reproductive and gastrointestinal systems. Nine patients admitted frequency of urination and/or dysuria while four women thought the pain was related to menstruation. Five women had abnormal vaginal discharge and 62 patients had a disturbance of the gastrointestinal tract. Twenty patients had nausea and/or vomiting while 51 had a change in bowel habit and six had pain related to defaecation.

Examination

As shown in Figure 2 all the patients had their abdomens examined. In addition 11 vaginal, five rectal and 23 ear, nose and throat examinations (all in children) were performed.

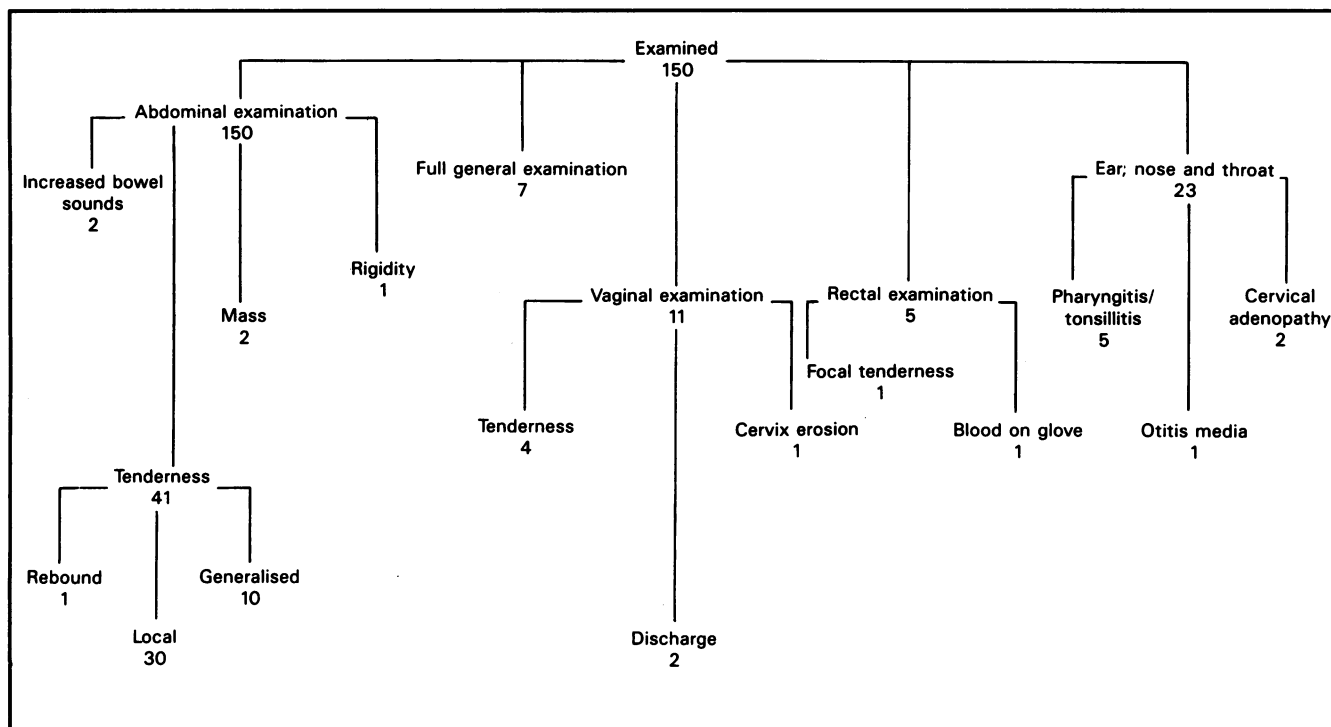


Figure 2. Examination pattern of patients.

Tenderness on abdominal examinations was the commonest positive finding (41 patients). In contrast only two masses and one case of abdominal rigidity were found.

Investigations

The details of the investigations performed by the practice are shown in Table 1. Three patients had more than one investigation performed. Thus, the majority of patients (84 per cent) were not investigated in any way by the practice.

Diagnosis

The initial diagnoses reached after taking a history, examination, and where performed, urinalysis, are shown in Table 2. Gastroenteritis was the most common diagnosis. In 21 cases the doctor was unable to make a diagnosis of any sort. At the end of the audit it was felt that at least 11 of the initial 150 diagnosis were incorrect as a result of the subsequent clinical events. Details of these patients are given in Table 3. In the case of the three patients who were thought to have urinary tract infection the negative culture results may have been due to collection, transport or laboratory problems and our initial diagnosis may still have been correct. Most cases proved to be simple self-limiting conditions and for the majority of cases no steps were

Table 1. Investigations performed in general practice.

Investigation	Number of investigations performed	Number abnormal
Urine Labstix	9	2
Urine culture	7	2
High vaginal swab	1	1
Stool culture	2	0
Blood count	3	0
Barium meal	4	2
Total	26	7

taken to confirm the diagnosis by investigation. Hence, we must accept some degree of diagnostic overlap, for example, between irritable bowel syndrome and mild cases of gastroenteritis.

Management

A summary of management is shown in Figure 3 and Table 4. Of the 150 cases, 133 were managed entirely within the practice. Of these cases, 69 were treated with reassurance and advice and 64 received medication in addition.

Emergency admissions. Of the 17 patients referred to hospital, nine were referred as emergency (same day) admissions. Six of these patients were referred on their first visit to the general practitioner and three on the second visit. Eight patients were admitted to the specialty to which they had been referred and one patient was sent home. In this group three patients had emergency surgery — two appendectomies (only one of the appendices was inflamed), and one reduction of an intussusception. One patient died with fulminating pancreatitis and another required intravenous fluids for severe gastroenteritis (we thought that this patient had appendicitis).

The remaining three patients who were referred for emergency admission were those who were sent to hospital after their second visit to the general practitioner. One woman had pelvic inflammatory disease and her pain increased in spite of conventional management by the general practitioner. Her treatment was continued in hospital and her condition gradually improved. The other two patients were children with nonspecific abdominal pain whose parents were becoming increasingly anxious that the condition of their children was not improving with rest at home. Both children recovered fully after several days in hospital and no diagnosis was established. This a common event on a paediatric surgical ward.¹

One elderly woman with right hypochondriacal pain was admitted urgently following a domiciliary consultation. Despite extensive investigations only a Riedel's lobe of the liver was found and she is now reasonably well.

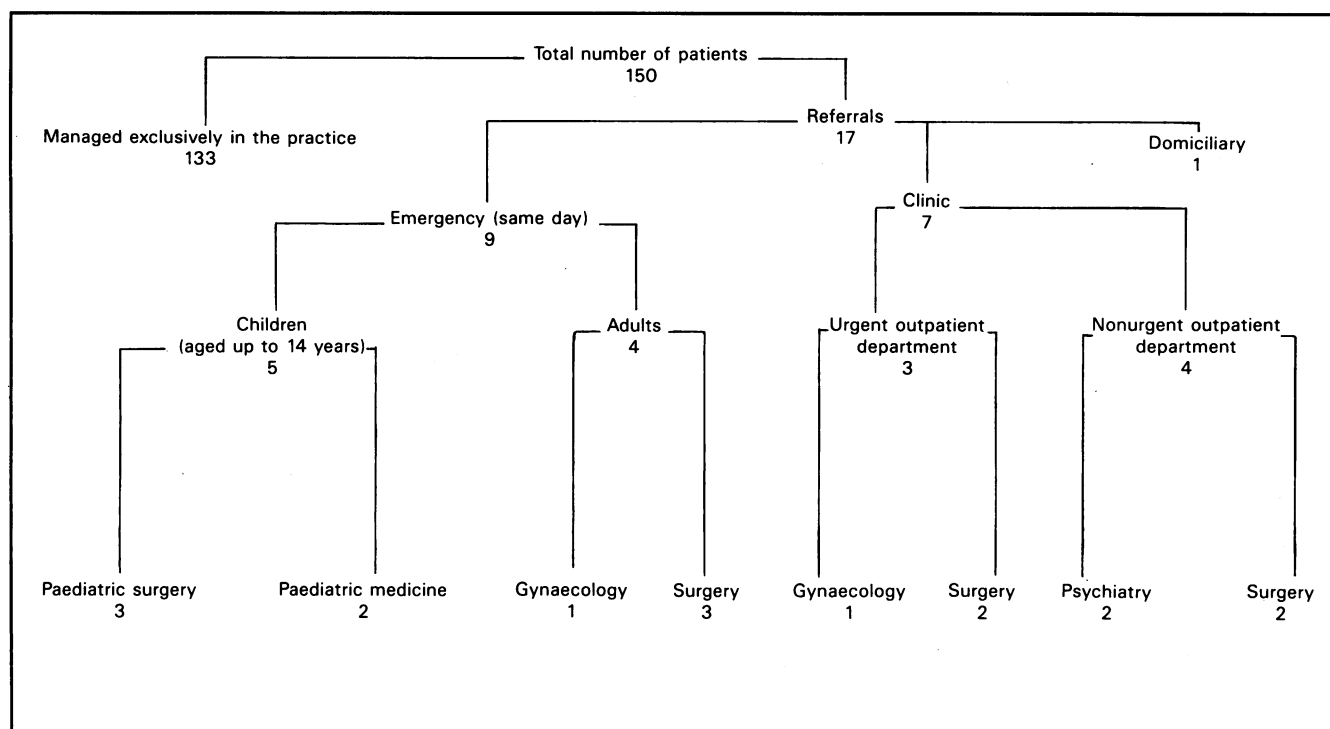


Figure 3. A summary of management.

Outpatient referrals. Of the two urgent surgical outpatient referrals one man had a duodenal ulcer which did not respond to the medical therapy initiated by the practice and he subsequently had a vagotomy and pyloroplasty. The other patient, an elderly man with epigastric pain and weight loss is still under investigation.

The urgent gynaecological referral was for a woman aged nearly 80 years with a large pelvic mass which was found at laparotomy to be a broad ligament cyst.

Of the nonurgent referrals two patients are receiving psychiatric help, while the two surgical referrals both had peptic ulcers, one requiring surgery.

Medication prescribed. Sixty-four patients were issued with at least one prescription. The details are shown in Table 4. Note that the repeat prescriptions during the follow-up period of the study are excluded.

Outcome of patients managed within the practice. Not every patient was formally followed up. Patients were either given a definite appointment or asked to return if their symptoms did not resolve. Patients were judged to be completely better if their symptoms had gone on follow up, or if they did not reattend the practice with a similar or related complaint by December 1984.

Of the 133 patients 125 were judged to be completely better

Table 2. Initial diagnoses reached after taking a history, examination and where performed, urinalysis.

Diagnostic categories															
Gastrointestinal tract	Unknown	Gynaecological		Urinary tract		Non-specific viral	Ear, nose and throat		Psychological		Other				
Total	84	Total	21	Total	10	Total	5	Total	9	Total	6	Total	9	Total	6
Gastroenteritis	31			Salpingitis	5	Urinary tract		Tonsillitis	2	Anxiety state	6	Musculo-skeletal	3		
Irritable bowel syndrome	18			Dysmenorrhoea	3	infection	5	Pharyngitis	3	Depression	2	Periodic syndrome	2		
Constipation	10			Ovarian cyst	1			Otitis media	1	Marital discord	1	Mesenteric adenitis	1		
Peptic ulcer	6			Mittelschmerz	1										
Analgesic gastritis	4														
Appendicitis	2														
Possible appendicitis	2														
Diverticular disease	2														
Reflux oesophagitis	2														
Alcohol gastritis	1														
Non specific dyspepsia	1														
Food poisoning	1														
Milk intolerance	1														
Intussusception	1														
Pancreatitis	1														
Infectious hepatitis	1														

Table 3. Diagnoses known to be incorrect or probably incorrect.

Initial diagnosis	Final diagnosis
Salpingitis	Depression
Viral infection	Anxiety
Urinary tract infection	Muscle strain
Urinary tract infection	Uncertain
Urinary tract infection	Uncertain
Muscle strain	Urinary tract infection
Gastroenteritis	Duodenal ulcer
Gastroenteritis	Constipation and overflow
Gastroenteritis	Lactose intolerance
Ovarian cyst	Broad ligament cyst
Appendicitis	Gastroenteritis

Table 4. Medication prescribed by the practice.

Drug category	Number of prescriptions
Antibiotics	18
Antispasmodics	13
H ₂ receptor antagonists	10
Antacids	7
Laxatives	4
Bismuth chelates (De-Nol, Brocades)	4
Antidiarrhoea	2
Antiemetic	2
Psychotropics	5
Electrolyte powders	3

while five were improved, one was unchanged and one was worse. There was one death due to a cerebrovascular accident which we considered to be unrelated to the presentation with abdominal pain.

Discussion

Many undergraduates regard abdominal pain as the province of the surgeon and his knife. This study confirms that the majority of patients (89 per cent) can be effectively managed within general practice, and that over half of these (52 per cent) can be managed with reassurance and advice alone.

Diagnoses in general practice are usually based on the history and examination and in our study only 17 per cent of the patients managed by the practice alone had any sort of investigation performed.

Of the 150 initial diagnoses 11 were felt to be incorrect but in many other cases it would be difficult to prove or disprove the diagnoses, for example, in patients considered to have a viral infection. We also felt that there was bound to be some overlap between certain categories such as gastroenteritis, irritable bowel syndrome and constipation. General practitioners learn to accept diagnostic uncertainty and frequently do not investigate to confirm a diagnosis providing they are confident that the condition will be self limiting. They are usually the first doctor to see a patient and in the early stages, when illness may be either transient or developing, diagnosis can be extremely difficult.

In this series no diagnosis could be made at the initial consultation for 21 patients (15 per cent). Of these 11 were children. All of these patients subsequently recovered completely and for

this group it seemed that time rather than investigation was required.

It is interesting that patients with diarrhoea, vomiting and abdominal pain frequently present abdominal pain as their primary symptom and do not mention disturbance of the gastrointestinal tract until asked directly. It may be that patients find pain an acceptable symptom to present to the doctor or they may find the pain most worrying. It is possible that patients might use pain to request a home visit but in this series only seven of the 150 consultations were carried out in the patient's home.

We were critical of both our investigation and prescribing habits. We were surprised and disappointed to find that we had performed only one high vaginal swab in the five cases of pelvic inflammatory disease which we had diagnosed and treated as such.

Our use of urine culture was erratic. Of the five patients diagnosed as having urinary tract infection, four cultures were performed and one was positive. The remaining three urine cultures which were performed yielded one dubious positive result.

On reviewing the prescriptions we had issued we were particularly critical of our use of H₂ receptor antagonists for patients with short histories compatible with gastritis and/or peptic ulceration. Simple antacids would probably have sufficed in several cases. It was alarming to realize that one doctor had seen a representative from a pharmaceutical company promoting a particular H₂ receptor antagonist only one week prior to his prescribing five courses of the promoted drug.

We also overprescribed for simple cases of constipation and irritable bowel syndrome when dietary measures had not been given an adequate trial.

We were happier with our referrals. Of the nine emergency referrals made eight were admitted by the doctor on call for that specialty and therefore these referrals were appropriate. Similarly, of our three urgent referrals to outpatient departments, two needed surgery and one is still under investigation. Consequently we feel confident that we can determine which cases are serious even if the actual diagnosis sometimes elude us.

This was the first practical experience of audit for all three doctors who took part in this study. For the relatively small amount of time and effort required we have all gained an insight into our management and we hope to improve our investigation and treatment procedures as a result. We do not consider that our clinical behaviour was any different because we were carrying out the study prospectively. This report fairly represents the way we managed our patients although we may well have kept fuller and more accurate notes during the study period.

Interestingly, in this series of 150 cases there was only one appendicitis, one pancreatitis, and one intussusception. Perhaps it is time a different emphasis was placed on the cause and management of abdominal pain.

Reference

1. Drake DP. Acute abdominal pain in children. *J R Soc Med* 1980; 73: 641-645.

Address for correspondence

Dr W.M. Forman, 65 Chorley Road, Swinton, Manchester M27 1AP.