by F Willett and colleagues, in which chest pain was accompanied by electrocardiographic changes.² As W M Castle and V E Simmons discuss, this patient had a retrospective diagnosis of Prinzmetal's angina,³ which the datasheet states is a contraindication to sumatriptan.

Stricker refers to recurrence of symptoms after rechallenge. This is of considerable interest, especially in case 2, for despite chest symptoms the patient apparently used the drug more than 10 times. In our clinical trials programme 15 patients who had experienced at least one episode of chest discomfort, pain, pressure, or tightness were formally rechallenged under intensive electrocardiographic monitoring. Five experienced the same symptoms, and two of these five also experienced the symptoms after placebo. In none of these patients was any electrocardiographic change detected.

During the clinical development programme for sumatriptan almost 6000 electrocardiograms were recorded. They were obtained during and after the administration of subcutaneous sumatriptan in more than 1200 patients and after oral sumatriptan in more than 400 patients and volunteers. There is no evidence of a link between the chest symptoms which occur in 3-5% of patients and electrocardiographic change or other evidence of myocardial ischaemia except in extremely rare cases such as that reported by Willett and colleagues.

Sumatriptan (both oral and subcutaneous forms) has been available in the Netherlands for over a year and is also registered in 21 countries worldwide. The 12 cases of chest pain that Stricker reports are not surprising in the context of extensive patient exposure.

Stricker also refers to an article by Chester *et al*, who concluded that the minor vasoconstriction after sumatriptan seen in vitro in human coronary arteries might be important in the presence of atheroma.⁴ Their data, however, do not support this conclusion. They in fact show that in atheromatous sections of artery the constriction was even less than that in "normal" segments.

From our extensive study of the cardiovascular safety of sumatriptan in large numbers of patients we can find no evidence that the chest pain is due to myocardial ischaemia except in very rare cases, as noted above. Nevertheless, we recognise that the cause of these chest symptoms must be established and we are undertaking a programme of studies to this end in both patients and volunteers.

D K LLOYD
A J PILGRIM
V E SIMMONS

Glaxo Group Research,
Greenford,
Middlesex UB6 0HE

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Treatment of natal cleft sinus

EDITOR,—H T Khawaja and colleagues conclude that widespread use of primary closure would improve the management of patients with uncomplicated natal cleft sinus.¹ Although trials such as this are useful in showing the superiority of one treatment over another, results are influenced by patient selection in a condition in which successful outcome owes much to clinical enthusiasm.² Such results must therefore be interpreted with caution before their general application is assumed. We

recently reviewed the case records of 229 patients undergoing both emergency and elective operations for pilonidal sinus of the natal cleft at Selly Oak Hospital, Birmingham, from 1986 to 1991. Our findings confirm that this condition is an important cause of morbidity in young people, for whom treatment is often unsatisfactory.³

Of 121 patients undergoing elective procedures, 20 were treated by simple excision and primary closure (by different consultants and senior registrars) and primary healing was obtained in only seven of these 20. Complete healing before discharge was documented in only nine cases, and nine patients defaulted from follow up. Better results were obtained in 29 patients whose defect was repaired with a transposition rhomboid flap (by one consultant with a special interest in this procedure): 20 of these wounds showed primary healing. Encouraging results have been reported with this technique,⁴ and a rotation flap also has the advantage of flattening the natal cleft and covering the area with good quality skin, which may decrease the likelihood of future recurrence.⁵

Of 108 emergency operations for pilonidal abscesses and discharging sinuses, 85 were undertaken by senior house officers, usually out of normal working hours (72 cases). Although outpatient follow up of these patients was often arranged, review was often unsatisfactory, with 30 patients defaulting and 30 being discharged before complete healing. This may be why 45 of those who had emergency operations for a discharging sinus had had at least one previous operation.

We believe that our findings are typical of the difficulties in treating natal cleft problems in a busy district general hospital. Considerable improvements in treating this common and often neglected condition could probably be achieved by simple measures, including a defined plan of management, better supervision of junior staff, and improved education of patients.

J HOLLINGWORTH

Department of Surgery,
Leicester General Hospital,
Leicester LE5 4PW

Queen Elizabeth Hospital,
Birmingham B15 2TH

Selly Oak Hospital,
Birmingham B29 6JD

D M HEGARTY

H D KAUFMAN

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EDITOR,—H T Khawaja and colleagues' short report suggesting that excision and primary closure of pilonidal sinus is cheaper and more effective than secondary healing is contentious.¹ Though we commend the authors for having successfully run a prospective trial in this infuriating condition, the numbers in each group (23 patients) are small and cannot support definitive statements on treatment policy.

Whether the wounds in the primary closure group were sutured in the midline or were offset is not stated. Why the wounds left to heal by secondary intention were packed for a week after surgery is unclear. Early use (after 72 hours) of Silastic foam dressing would have reduced or obviated the need for visits by a district nurse and so reduced costs.²

Details of cost analysis are not divulged. Pre-

vious large studies show healing by secondary intention to be 40-50% cheaper than primary closure,^{3,4} which is in direct contrast to the authors' findings.

No comment is made on the 26% of patients who underwent primary closure and subsequently experienced complications, other than that "healing of unsuccessful cases was not significantly different from that of the secondary healing group." No details are given about morbidity associated with breakdown of the wound, and we question whether a method with a complication rate of this magnitude is effective or even acceptable.

Follow up was limited to one year, but recurrence rates increase with length of follow up; most recurrences occur within three years.⁵

In conclusion, therefore, this trial, though having the advantage of being prospective, suffers from including few patients and fails to address the controversial points it raises; it cannot justify definitive statements concerning surgical management.

D P BERRY
K G HARDING

Wound Healing Research Unit,
University Department of Surgery,
University of Wales College of Medicine,
Cardiff CF4 4XN

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AUTHORS' REPLY.—In the patients in our primary closure group the wounds were sutured in the midline. The wound cavity changes rapidly in shape over the first few days, which is why we packed the wound for a week after surgery before using Silastic foam dressing.

Use of resources was measured by patient days in hospital, visits to the outpatient department, visits by a district nurse, and days off work. The main measures of effectiveness were days to complete healing and recurrence at six and 12 months.

The previous study showing that secondary healing is cheaper than primary closure was a retrospective analysis, with follow up by postal questionnaire or telephone (77% response rate), of patients treated for either natal cleft sinus or abscess five to nine years previously.¹ Information regarding time to healing, time off work, and recurrence was not available from all responders. Those who had primary closure were kept in hospital for a mean of 8.4 days. In his review Allen-Mersh pointed out that primary healing was achieved within two weeks in over 90% of the patients included in 17 published studies.² He assumed, however, that such patients stayed in hospital for seven nights. The main cost differential between the two treatment groups was the length of stay in hospital. If the costs were recalculated with the patients who had primary closure being treated as day cases (as in our study) primary closure would be much cheaper than secondary healing.

Our paper clearly states the morbidity in the six patients in the primary closure group whose wounds failed to heal. The wound broke open after removal of sutures in four cases; two patients required early removal of sutures owing to wound haematoma and wound infection.

D P Berry and K G Harding fail to understand the essential message of our paper. We compared two commonly used methods of treating pilonidal