Recurrent migraine after propranolol

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A 70-year-old woman with angina pectoris developed a migrainous headache 3 days after starting oral propranolol. She had not complained of headaches since her second and third decade when she had suffered occasional attacks of migraine. It is likely that propranolol was the cause of her headache, since it recurred when she was rechallenged with the drug.

Propranolol has been used in the treatment of migraine (Børgesen *et al.*, 1974; Widerøe and Vigander, 1974; *Drug and Therapeutics Bulletin*, 1975), though the mode of action has not been elucidated. However, in the case reported here, propranolol appeared to precipitate vascular headaches. The patient was subsequently challenged with propranolol and placebo.

Case report

A 70-year-old woman with a 20-year history of angina pectoris was admitted to hospital with severe persistent chest pain, occurring at rest, suggestive of myocardial ischaemia. A similar attack had occurred two months previously, but had been treated at home. She took nitroglycerin regularly in addition to thyroid replacement therapy for hypothyroidism. Although she had suffered from migraine (consisting of headache, visual disturbances, and vomiting) in her second and third decade, she had had no headaches for many years. Examination showed no abnormalities. The heart rate was 76/minute and the blood pressure was 130/70.

Investigations revealed normal haemoglobin, blood urea and electrolytes, liver function tests, serum levels of cardiac enzymes and thyroxine, and a normal chest x-ray film. Serial electrocardiograms were normal.

A diagnosis of coronary insufficiency was made and treatment consisted of bed rest and propranolol 40 mg t.d.s. She had no further chest pain after admission, but on the third and fourth days of treatment, she suffered from severe bilateral, frontal headaches, associated with teichopsia, photophobia, and difficulty in focusing, but no nausea or vomiting. The propranolol was stopped, and the headaches resolved within 8 hours of the last dose.

She was discharged and remained well, apart from stable angina, requiring regular nitroglycerin; she had no further headaches.

Five months after discharge, the patient was re-challenged double-blind with propranolol and placebo, the first treatment being one tablet on day 1, one b.i.d. on day 2, and one t.d.s. for the rest of the week, the alternative treatment being similarly administered the following week. In week 1 (placebo), her angina remained stable and no headaches occurred. On day 5 of week 2 (propranolol 40 mg) the patient suffered a severe bilateral, frontal headache, lasting for 12 hours and associated with photophobia but no nausea. The following day she stopped taking the drug and the headache disappeared within 12 hours of the last dose. The trial was terminated in view of the distinct symptomatology.

Discussion

Propranolol appeared to precipitate vascular headaches in this patient, even though it is sometimes used for the prophylaxis of migraine (Børgesen *et al.*, 1974; Widerøe and Vigander, 1974; *Drug and Therapeutics Bulletin*, 1975). In the period 1964 to 1973, there were five reports to the Committee on Safety of Medicines of headache related to propranolol, one related to oxprenolol, and one to practolol, but no reports of migraine. In view of a previous report of two incidents of migraine in patients taking propranolol (Sharpe, 1974), this seems to be a possible side-effect of propranolol, and maybe other β -blockers.

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References

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