

Cardiac valvulopathy

Michael Schachter

These colour doppler images are from the cardiology unit of Professor Guy van Camp in Brussels, whose paper last year (2004) drew attention to the association between restrictive valvular disease and the antiparkinsonian ergot derivative pergolide. *Figures 1–2* show abnormal valves in patients treated with this drug.

This association had been described on other occasions in Europe and the United States, with pergolide and, to a lesser extent, with the other dopaminergic ergot derivatives cabergoline and bromocriptine. This adverse effect, which is a fibrotic process, is almost certainly not a consequence of an interaction with dopamine receptors, but with serotonin receptors of the 5-HTA/B subtype (Fitzgerald et al, 2000). As *Figure 3* shows, similar valvular changes occur with ergotamine, which has no dopaminergic activity but does have potent serotonergic properties.

The appetite suppressant fenfluramine, also acting through serotonin mechanisms, was withdrawn because it caused fibrotic valvular lesions, and

Dr Michael Schachter, Department of Clinical Pharmacology, Imperial College School of Medicine, St Mary's Hospital, London W2 1NY

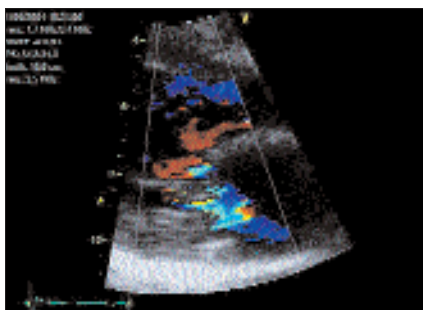
Correspondence to: Dr M Schachter

identical cardiac pathology has long been associated with the carcinoid syndrome, where very large quantities of 5-hydroxytryptamine (5-HT) are secreted (Fox and Khattar, 2004). In the case of pergolide and related drugs the true incidence of the problem is not known, but the work of van Camp and others (Baseman et al, 2004; Horvath et al, 2004) suggests that it should not be regarded as rare and may be related to cumulative drug dosage. **HM**

Baseman DG, O'Suilleabhain PE, Reimold SC, Laskar SR, Baseman JG, Dewey RB Jr (2004) Pergolide use in Parkinson disease is associated with cardiac valve regurgitation. *Neurology* **63**: 301–44

Fitzgerald LW, Burn TC, Brown BS et al (2000) Possible role of valvular serotonin 5-HT(2B) receptors in the cardiopathy associated with fenfluramine. *Mol Pharmacol* **57**: 75–81

Figure 1. Colour doppler image of a pergolide-treated patient with mitral regurgitation with restrictive changes.



Fox DJ, Khattar RS (2004) Carcinoid heart disease: presentation, diagnosis, and management. *Heart* **90**: 1224–8
 Horvath J, Fross RD, Kleiner-Fisman G et al (2004) Severe multivalvular heart disease: a new complication of the ergot derivative dopamine agonists. *Mov Disord* **19**: 656–62
 van Camp G, Flamez A, Cosyns B et al (2004) Treatment of Parkinson's disease with pergolide and relation to restrictive valvular heart disease. *Lancet* **363**: 1179–83

Figure 2. Colour doppler image showing similar changes in the tricuspid valve in another pergolide-treated patient.

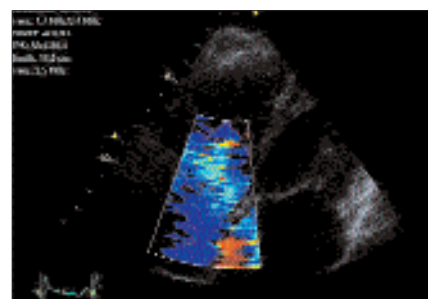


Figure 3. Colour doppler image of restrictive mitral valve lesion in a patient taking dihydroergotamine for migraine prophylaxis.

