Heart abnormalities in Parkinson patients treated with ergot derived dopamine agonists

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ABSTRACT

The dissertation focuses on potential harmful cardiovascular side effects of the drugs pergolide and cabergoline. These drugs are ergot derived dopamine agonists (EDDA) used primarily for treatment of Parkinson's disease.

Medically induced heart valve disease is not a new phenomenon. Ergotamine drugs and the anorectic drugs, fenfluramine and dexfenfluramine have previously been associated with heart valve disease. The valvular abnormalities seem to resemble those seen in carcinoid syndrome. In 2002 a case report described similar valvular abnormalities in patients treated with pergolide. As all the drugs mentioned share the ability to interfere with serotonin receptors, a common mechanism could readily be suspected.

In a cross-sectional study of patients with Parkinson's disease we aimed to further elucidate the association between treatment with EDDA and cardiovascular abnormalities. The study included 145 Parkinson patients treated with either EDDA or another anti-parkinson drug not derived from the ergotamine structure (non-EDDA).

Patients, who at the first examination were diagnosed with valvular regurgitation or pulmonary hypertension had a re-examination after one year. To avoid acquisition and interpretation bias the cardiac examinations with echocardiography were performed blinded to medical treatment.

The study confirmed a statistically significant and clinically important association between EDDA treatment and at least moderate valvular regurgitation. EDDA treatment was also associated with mildly increased pulmonary artery pressure. No morphological marker issued a clear warning to medically induced valvular abnormalities, and on a clinical basis the sensitivity and specificity for detecting cardiovascular abnormalities were unsatisfactorily low. Thus, echocardiographic control on a regular basis is recommended in patients with an ongoing need for EDDA treatment.

Continued EDDA treatment seem to be associated with increased risk of worsening if a diagnosis of valve insufficiency or pulmonary hypertension is already established. Thus, discontinuation of EDDA treatment is to be recommended in patients with such cardiovascular abnormalities. One year after discontinuation of EDDA treatment valvular regurgitation remained overall without definite progression or improvement whereas the pulmonary artery pressure had decreased significantly. Further studies are needed to elucidate whether an extended follow-up period may reveal significant regression of valvular abnormalities after discontinuation of EDDA.