Side effects of low-dose oral minoxidil for treating alopecia

To the Editor: We appreciate the analysis of minoxidil-related information of adverse events by Ortega-Quijano and colleagues, particularly the information highlighting 8 patients prescribed oral minoxidil (Loniten; Pfizer).

Our case series included a diverse sample of healthy dermatology patients with both scarring and nonscarring alopecias (n = 51). The patients were seen at 2 community dermatology clinics in a large and ethnically heterogenous metropolis—Toronto, Canada—and the mean patient age was 42 years.[1] The patients were screened for a history of cardiac, liver, and renal disease. Treatment was deferred if they screened positive. This finding contrasts with the data extracted from the US Food and Drug Administration Adverse Event Reporting System (FAERS), in which 4 of the 8 adverse reactions were experienced by patients greater than 70 years of age, 3 of whom required hospitalization, and the youngest stated patient age was 46.

It is important that prescribing dermatologists are aware of contraindications to prescription of low-dose oral minoxidil (LDOM) including drug hypersensitivity, pheochromocytoma, pulmonary hypertension with mitral stenosis, and severe hepatic impairment.[2]

From a cardiovascular perspective, minoxidil acts a systemic vasodilator, which leads to reflex tachycardia that can provoke myocardial ischemia.[3] Accordingly, minoxidil should be avoided in patients who have angina or recent myocardial infarction. Minoxidil can also promote substantial fluid retention by modulating renal hemodynamics, tubular action, and systemic neurohormonal activation.[3] Thus, it should be avoided in patients with heart failure or those at high risk for it. Because it can promote ischemia and fluid retention, minoxidil is best avoided in patients with left ventricular hypertrophy. Pericardial effusions are another important adverse effect whose mechanism remains undetermined to our knowledge.[4] Consequently, minoxidil is at least a fourth-line agent in contemporary hypertension management.

When used as an antihypertensive agent, the American Society of Hypertension and the International Society of Hypertension suggest that the dosage of minoxidil range from 5 to 10 mg, which can be split to 1 to 3 times daily.[5] When used for alopecia conditions, the recommended 1.25 mg dose is considerably lower and can be increased to 2.5 mg if tolerated.[1] Intake of LDOM before sleeping is recommended to minimize the perception and potential impact of hypotensive symptoms. In the FAERS database of adverse event reports, the dose of minoxidil was not stated.

Most historic reports on the adverse effects of minoxidil involved patients with longstanding uncontrolled hypertension, resulting in left ventricular hypertrophy, myocardial infarction, heart failure, or advanced kidney disease.[3,4] Moreover, the doses used were generally 10 mg/d or more. Although vasodilation and fluid retention are predictably dose-dependent effects of minoxidil,[3] the dose dependence of pericardial effusions is unclear.[4] However, most reports of minoxidil-attributed pericardial effusions involved doses 10 mg/d or more or end-stage renal disease.[4] Accordingly, we expect lower rates of these adverse effects with LDOM in healthy individuals. Nonetheless, subsequent symptoms of chest pain, dyspnea, or persistent edema in patients taking LDOM for alopecia should prompt appropriate investigations.

The investigation of adverse effects by Ortega-Quijano and colleagues serves as further context in determination of suitable candidates for prescription of LDOM for alopecia.

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Conflicts of interest

None disclosed.

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