

CLINICAL IMAGES

Exacerbation of psoriasis with β -blocker therapy

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A 54-year-old man with a 20-year history of erythrodermic psoriasis underwent coronary artery bypass graft surgery. The patient had no prior history of β -blocker use. He was given the β -blocker bisoprolol postoperatively to treat atrial fibrillation. Within 72 hours after beginning therapy with bisoprolol, the patient experienced an acute worsening of the psoriasis. Generalized inflammation of the skin developed with deep, erythematous, coalescing plaques (Figure 1). The patient's face was not affected, which is characteristic of erythrodermic psoriasis.

The patient lost substantial transepidermal fluid from a large area of denuded skin. This fluid loss resulted in hypovolemia and hemodynamic instability that required aggressive fluid therapy. The psoriasis was treated aggressively with methotrexate and topical agents. The bisoprolol was discontinued because of concern that it may have caused the exacerbation of psoriasis. The patient's condition improved after discontinuation of the bisoprolol.

When managing atrial fibrillation, the initial goals are anticoagulation and control of the heart rate. The eventual goal is to restore and maintain sinus rhythm.¹ β -blockers are the drugs of choice for controlling heart rate,² but have been reported to cause severe worsening of psoriasis resulting in hemodynamic compromise.³ This reaction is extremely rare.

The mechanism for the exacerbation of psoriasis with β -blocker use is thought to be related to a blockade in the activation of the messenger system of cyclic adenosine 3',5'-cyclic monophosphate. This blockade results in reduced intracellular concentrations of calcium. This reduction may, in turn, cause an accelerated proliferation of keratinocytes or polymorphonuclear leukocytes, both of which may play a role in inducing or exacerbating psoriasis.⁴

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Figure 1: Photograph of the chest of a 54-year-old man with acute exacerbation of psoriasis during postoperative therapy with bisoprolol. The image shows generalized inflammation and coalescing plaques across the site of the sternotomy.

REFERENCES

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