Crusted Lesion at the Implantation Site of a Pacemaker

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A 78-year-old woman was referred to dermatology from the cardiology clinic with concerns of a nonhealing, scablike lesion on the left chest over the implantation site of a dual-chamber permanent pacemaker (PPM). Eight months prior, the patient underwent successful PPM implantation for symptomatic bradycardia and second-degree atrioventricular block. Her cardiologists subsequently noticed an oozing crusting scab at the site of implantation and eventually referred her to dermatology with concerns for squamous cell carcinoma. Physical examination at the current presentation revealed an exophytic serous crust overlying the PPM implantation site on the left chest.

WHAT'S YOUR **DIAGNOSIS?**

a. hypertrophic actinic keratosis
b. pacemaker-associated infection
c. pacemaker extrusion
d. seborrheic keratosis
e. squamous cell carcinoma

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THE **DIAGNOSIS:** Pacemaker Extrusion

The lesion crust was easily scraped away to reveal extrusion of the permanent pacemaker (PPM) through the skin with a visible overlying gelatinous biofilm (Figure). The patient subsequently completed a 2-week course of clindamycin 300 mg 3 times daily followed by generator and lead removal, with reimplantation of the PPM into the right chest, as is the standard of care in the treatment of pacemaker extrusion.[1]

FIGURE. After gentle removal of the superficial crust, the underlying pacemaker generator was exposed through the epidermis, with a visible gelatinous biofilm coating the device surface, confirming pacemaker extrusion through the skin.

Ours is the first known reported case of pacemaker extrusion referred to dermatology with a primary concern for cutaneous malignancy. Pacemaker extrusion through the skin is not common, but it is the most common complication of PPM implantation, followed by infection.[1] Pacemaker extrusion results from pressure necrosis and occurs when the PPM emerges through erythematous skin.[1,2] Pacemaker extrusions generally are diagnosed by cardiology; however, it is important for dermatologists to recognize this phenomenon and differentiate it from other cutaneous pathologies, as the morphology of skin changes related to pacemaker extrusion through the skin can mimic cutaneous malignancy or other primary skin disease, especially if the outer layer of a biofilm that forms around the PPM hardens to form a crust. Our case emphasizes the importance of removing crusts when evaluating lesions.[3]

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