Clinical manifestation, diagnosis, and surgical treatment of chronic radiation ulcer related to percutaneous coronary intervention

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INTRODUCTION: Chronic radiation ulcers that develop after cardiac catheterization had become more common nowadays because of the rapid increase in the use of diagnostic and interventional cardiac catheterization procedures[1-3]. However, diagnosis and treatment remain difficult.

MATERIALS AND METHODS: We present 10 patients with National Cancer Institute (NCI) grade 4 radiation ulcers related to prolonged percutaneous coronary interventions. Collected data, including clinical presentations and treatments, were analyzed. A quality-of-life questionnaire was scored by patients preoperatively and postoperatively.

RESULTS: Most of the lesions (8/10 patients) were located at the back. All of the patients received prolonged cardiac catheterization of more than 3 hours, at least once. The coronary artery lesions all included chronic total or near-total occlusion. The surgical procedures were complete resection of the lesion followed by fasciocutaneous flap coverage (9/10) and skin grafting (1/10). The mean follow-up time was 23.3 months. All of the wounds healed well without complications. After the operation, the symptoms were relieved and quality of life improved significantly according to the scoring of the quality-of-life questionnaire.

CONCLUSION: Early diagnosis of chronic ulcers related to prolonged percutaneous coronary interventions relies on careful history taking and highly suspicious clinical presentation. Complete resection and immediate reconstruction with flaps or grafts for NCI grade 4 radiation ulcers achieved improved symptomatology and reliable wound coverage without complications.

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FIGURE LEGEND:

Figure 1. Left elbow lesion in case 5.

Figure 2. En bloc excision of the lesion and pedicled forearm fasciocutaneous flap reconstruction.

Table 1. Case Summary. PCI: percutaneous coronary intervention, CAD: coronary artery disease, RAO: right anterior oblique, LAO: left anterior oblique, AP: anterior posterior, RCA: right coronary artery, LAD: left anterior descending coronary artery, LCX: left circumflex coronary artery, M: middle, D: distal, M-D: middle to distal, CTO: chronic total occlusion.