Perforator Injury from Therapeutic Injections Limiting Breast Reconstructive Options

Kamil Asaad, MB ChB MRCS; William E Beswick, MB ChB, BSc (Hons); Pirana Vigneswaran, MB ChB; Diana E Slade-Sharman, FRCS (Plast)

Disclosure/Financial Support: None

INTRODUCTION: Deep inferior epigastric perforator (DIEP) free flap offers the gold standard in breast reconstruction following mastectomy. A variety of drugs in breast cancer patients need to be injected subcutaneously. The abdomen is a popular recipient site for these injections owing to the volume of tissue present as well as ease of administration. We report a series of three patients that following injections have required a change to their original reconstructive plan of a DIEP free flap.

PATIENTS AND METHODS: Three patients attended for delayed free flap breast reconstruction by the senior author between 2013 and 2015. All patients had received mastectomy and chemotherapy. Additionally they received either low molecular weight heparin, Gonadotropin releasing hormone (GnRH) agonist, or platelet-derived growth factor (PDGF) injections.

We analyzed the advised administration method and recommended site of seven therapeutic agents (3 low molecular weight heparin, 2 GnRH agonists, 1 PDGF).

RESULTS: All patients had hematoma and fat necrosis in the injection sites. This resulted in two patients requiring an extended LD flap and lipofilling, as there were no suitable DIEP perforators. The third patient was able to undergo DIEP flap reconstruction, as there was a suitable contralateral perforator.

The therapeutic agents all came in prefilled syringes with needles ranging from 14-27 gauge. Abdominal injection had been recommended in all cases. Some manufacturer supplied literature indicated injection sites that coincided with likely sites for DIEP perforators.

CONCLUSIONS: Therapeutic injections are an essential part of treatment for some patients. Their use is likely to become more widespread as other agents e.g. subcutaneous trastuzumab are introduced. Although the numbers of patients affected by this are relatively small, it can has a great impact on their reconstructive options and is easily preventable. We recommend working to educate primary care physicians and nurses and the pharmaceutical industry regarding the risks of abdominal injection and the use of alternative sites.