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SHORT COMMUNICATION

Post-operative day 1 discharge after DIEP breast reconstruction: clinical and patient-reported outcomes

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Enhanced recovery after surgery (ERAS) protocols are now well established in breast cancer surgery and autologous reconstruction [1, 2]. They shorten length of stays (LOS), reduce nosocomial infection rates, and reduce costs and the psychological burden on patients.

Our group has previously demonstrated significant reductions in major complications, total opioid usage, time to catheter removal, time to independent mobilisation, and time to removal of patient-controlled analgesia (PCA) in the ERAS versus non-ERAS groups [3]. We strive to discharge patients on post-operative day (POD) 2 after autologous breast reconstruction and achieve this for 33% of patients, with 75% patients discharged by POD3.

There is limited data on whether patients can be safely discharged on POD1. We describe our series of POD1 discharges following deep inferior epigastric perforator (DIEP) breast reconstruction, and demonstrate that, in suitable candidates, POD1 discharge can be safe and feasible, with good clinical and patient-reported outcomes.

From June 2021 to June 2022, 280 patients had 400 autologous flaps used for breast reconstruction. In this cohort, 8 patients were discharged on POD 1 following DIEP or bipedicled DIEP breast reconstruction. The median patient age was 53 years (43–70 years), and median BMI was 24.9 (±2.6). There were 7 unilateral (2 bipedicled) and 1 bilateral reconstruction, with 2 immediate and 6 delayed reconstructions. Two patients (25%) had pre-operative radiotherapy and 4 patients (50%) had pre-operative chemotherapy. There were no smokers, with 4 patients (50%) having had previous abdominal surgery. Favourable perforators on CT angiogram were identified pre-operatively for all patients. Residents (supervised) raised 7 of the 11 flaps and were the primary surgeon for the microsurgical anastomoses in 9 flaps. The median intra-operative time was 450 min (±95.5 min), with median ischaemia time being 47 min (±9.2 min). Progressive tension sutures were employed in all (100%) cases for abdominal closure. Breast drains were used in 6 (75%) cases; abdominal drains were only used in 2 cases (25%). Drain outputs ranged from 0 to 40 ml and all were removed on POD1.

Post-operative analgesia was achieved by the surgeon injecting 60 ml 0.25% bupivacaine diluted in 100 ml saline into the transverse abdominis plane, rectus sheath, wound edges, and around drain sites. Six out of 8 patients (75%) did not have opioid-based PCA. The other 2 did, but did not need it. All patients had a single dose of gabapentin pre-operatively, and regular acetaminophen and ibuprofen with one dose of gabapentin post-operatively.

As part of our ERAS pathway, the patients are mobilised prior to discharge. In the morning, the nurse in charge of the patient, after removing the catheter, will sit the patient in the chair. The patient is then reviewed by the physiotherapist who carries out chest exercises, early mobilisation, and walking exercises. The patient is also assessed by the occupational therapist, who assess if the patient is suitable for discharge in terms of home support (from family/friends), if the patient can manage to walk up and down stairs (assessment done in the hospital), and if patient transport needs to be organised. The patients can go home, generally after 2–4 h after catheter removal, and after assessment by the physiotherapist and occupational therapist. In our cohort, the majority of patients were discharged around 15:00 pm.

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Our team of 3 breast nurses call the patients the day after discharge to check/address any issues the patients may have, before they are seen in dressing clinic 1 week after discharge. If there is a problem anytime, the patient can send photographs or video which is reviewed by the consultant. If the patient needs to be reviewed face to face, we arrange a review in the dressing clinic. No patient in our cohort needed to be reviewed before the standard 1-week post-discharge review in dressing clinic. The patients in our cohort lived between 25 and 44 km away from the hospital. All patients could contact the clinical team through the on-call team (24 h) who could easily review them in 60–90 minutes in case of any emergency. The management of any other complications (e.g. infections, seroma, wound breakdown, fat necrosis) would be the same and independent to when patients were discharged; these would be recognised and diagnosed during the first review in dressing clinic, 1 week post-discharge.

There were no intraoperative complications, no returns to the operating room, and all patients healed uneventfully. All patients reported good BREAST-Q satisfaction with their breasts (median score 79.5) and physical well-being pertaining to the abdomen (median score 81.0) at median follow-up of 6.5 months (range 2–14).

In our experience (> 2800 autologous flaps for breast reconstruction), arterial or venous insufficiency will be apparent within 12 h of the surgery ending. Therefore, if the surgery was uneventful and the patient is well, comfortable, and sensible the morning after surgery, they can be safely discharged, with appropriate support at home. These 8 POD1 discharge patients were grateful to have been allowed home.

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Declarations

Ethical approval All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki Declaration and its later amendments or comparable ethical standards. The study was registered with the Research and Audit Department at Queen Victoria Hospital, East Grinstead, UK.

Informed consent Informed consent was obtained by all patients for inclusion of their data (clinical and patient-reported outcomes) for the purpose of publication.

Conflict of interest Ankur Khajuria, Francesca Ruccia, Martin Jones, and Adam Blackburn declare no conflict of interest.

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