Accurate Hip Reduction and SPICA Application for DDH – the Case for Intraoperative CT

J. Redfern, T. Hughes, H. George

Alder Hey Children’s Hospital, Liverpool, United Kingdom
Liverpool University Foundation Trust, Liverpool, United Kingdom

Aim: Accurate reduction of the hip joint and SPICA application for treatment of developmental dysplasia of the hip (DDH) is crucial for long term success – for those undergoing surgical intervention, or closed reduction only. In Alder Hey Children’s Hospital we compared two methods of confirming reduction for patients undergoing SPICA application for DDH. Those receiving either post-operative departmental computed tomography (CT) or an intra-operative CT. Specific outcomes assessed were, need for repeat CT and SPICA application, return to theatre...
(RTT), repeat general anaesthetic (GA) (with associated risks), as well as effect on overall length of stay (LOS).

**Method:** Patient lists were attained from the radiography department, information regarding RTT and LOS were derived from Meditech V6. CT scans were checked on PACS imaging system.

**Results:** Retrospective analysis of all SPICA application cases performed, included 102 patients from 2015–2018 undergoing a departmental CT, after GA. Of these, 6 patients required a second GA, 1 patient required 3 GA’s. Mean LOS was 6 days in those requiring repeat SPICA application.

Analysis of the second group of intra-operatively CT scanned patients, included 72 patients from 2018–2020. Of these, 0 patients required a repeat GA and RTT, despite 1 patient requiring change of SPICA. Mean LOS was 4 days for these patients.

**Conclusions:** Intra-operative CT is crucial for getting it right first time, reducing risks of GA and cost of theatre time. It reduced the LOS for those requiring SPICA change from 6 to 4 days and reduced mean LOS by 1 day overall.