SURGERY FOR INFANTILE HYPERTROPHIC PYLORIC STENOSIS: A TEN YEAR NATIONAL COHORT STUDY

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**Aims:** Determine: (i) outcomes of infantile hypertrophic pyloric stenosis (IHPS) surgery in England; (ii) whether there are differences in outcome between open or laparoscopic surgery, centre type and volume.

**Methods:** Hospital Episode Statistics (HES) data were used to analyse all NHS IHPS admissions in England 2002-2011. Data presented as median (IQR).

**Results:** 9686 infants underwent pyloromyotomy (83% male). Surgery was performed in 22 specialist centres (SpCen) and 39 non-specialist centres (NonSpCen), with 6221 (64%) transferred for surgery. Annual case volume in SpCen vs. NonSpCen was 40 (24-53) vs. 1 (0-3). Time to surgery was shorter in SpCen (1 day [1-2] vs. 2 [1-3]), but total stay equal at 4 days (3-6) due to 1 (1-2) day stay prior to transfer for many infants. Post-operative length of stay was also similar (2 days [1-3] vs. 2 [2-3]). 137 (1.4%) had complications requiring return to theatre (wound problem 0.6%; repeat pyloromyotomy 0.5% and laparotomy for perforation, bleeding or obstruction 0.2%): pooled rates were similar between SpCen vs. NonSpCen (1.4% vs. 1.6%, p=0.52, OR 0.84 0.46-1.53). Similarly, individual centre analysis demonstrated SpCen had a range of 0-3.4% (median 1.2%) and NonSpCen, 0-10% (median 0%). Three NonSpCen had complication rates >5%, but all involved small numbers (1/13 or 2/20, complications/total cases). There was no relationship between reoperation rate and centre volume (Figure 1). Laparoscopic pyloromyotomy was associated with an increased risk of requiring repeat pyloromyotomy (10/963 vs. 40/8723, p=0.029, OR 2.28 [1.14-4.57].

**Conclusions:** Outcomes of IHPS surgery are consistent across England and in keeping with international benchmarks. Whilst surgical volume at NonSpCen fails to meet the NCEPOD criterion of no occasional surgery, outcomes appear equivalent, although type II error must be considered. These data support published analyses demonstrating higher risk of inadequate myotomy with laparoscopy.

**Reoperation rates by Centre volume 2002-2011**

![Graph showing reoperation rates by centre volume from 2002 to 2011](image-url)