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Closure of Patent Ductus Arteriosus in the first year of life; does closure rate vary with clinician or patient factors?

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Introduction

We have had the impression that there are differences in numbers of infants referred for PDA closure from different areas of the East Midlands. We have therefore examined numbers of PDAs closed in the first year of life, as a proportion of other cases requiring intervention, by main postcode groups across the East Midlands. Potential reasons for any variation can therefore be explored.

Methods:

Retrospective case note review. 6 Main post code areas identified; mainly (although not exactly) corresponding to catchment areas for referring obstetric/ neonatal centres. Procedures from 'non-main' postcode areas were excluded.

Results:

Areas 1, 3 & 4 share the same level 3 neonatal service which does not have an on-site cardiac surgical unit. Area 2 has its own level 3 neonatal unit but also houses the cardiac surgical service. Area 5 looks to Area 2 for level 3 neonates and Area 6 has access to 2 different surgical units

Post-Code Area	2009 PDA(total n)	2010 PDA (total n)	2011 PDA (total n)
1	1 (11)	1 (15)	3 (26)
2	13 (50)	9 (52)	12 (56)
3	1 (5)	0 (16)	0 (9)
4	3 (52)	5 (36)	1 (36)
5	2 (5)	2 (19)	5 (21)
6	1 (14)	0 (13)	0 (11)
Total	21 (69)	17 (151)	21 (159)

Conclusions:

There are clear differences in referral rates for PDA closure across the East Midlands, which are not 'discounted' when the area are grouped by level 3 centre. It is not yet clear whether this relates to differences in demographics (eg area 2 has an very different ethnic mix and level of deprivation from the other areas) or to internal practice within the neonatal units themselves. If ease of access to surgical intervention is a barrier, this should also be explored, along with any potential effects on outcome.