A Review of Craniofacial Referrals to the NPCC and Introduction of a New Referral Pathway

Abstract:

The National Paediatric Craniofacial Centre (NPCC) at Temple Street Childrens University Hospital provides specialist care for over 660 children annually with syndromic and non-syndromic craniosynostosis, craniofacial tumours, craniofacial trauma, facial clefts, craniofacial growth disorders and facial asymmetry. Before the introduction of the craniofacial team at the NPCC in 2008 the referral process was managed by the TSCUH audit committee. Almost half (48.6%) of the referrals to the service were from a Neonatologist or Paediatrician. General practitioners or community services comprised the second largest group accounting for 28.4% of the referrals. Irregularities in shape and flattening of the head, including plagiocephaly were common terms used (45.3%). Synostosis (20.7%), syndromic synostosis (2.2%), soft tissue or isolated bony growths (11.2%), facial asymmetry (7.8%) and congenital anomalies of the craniofacial units in the UK, craniofacial vascular anomalies, positional plagiocephaly and disorders of facial nerve are treated by the NPCC.

The reasons for referral of children to the centre are varied. A retrospective audit of the origin and nature of referrals to the craniofacial service at the NPCC in year 2010 was carried out by the NPCC audit committee. There were three peaks in the age of the children at referral; 4 to 6 months, one to two years, and three years and older. Age at referral is an important factor for some craniosynostosis as it will determine the surgical approach taken. Referrals from GPs were more often older than six months (57.7%). A referral to a Paediatrician instead of directly to the craniofacial clinic may have delayed referral to the craniofacial clinic but we cannot confirm this as this cohort did not show a proportionally older age of the children referred from Paediatricians.

The referral letter provides vital information required for appropriate triaging. Craniofacial synostosis particularly with signs of raised intra-cranial pressure, craniofacial tumours and craniofacial traumas are categorised as priority referrals. Children under the age of 3 months were seen within six month of referral. The children who fell outside this time frame rescheduled their appointments by personal preference. The provisional diagnosis assumed by the referring physician was consistent with the diagnosis at the NPCC. Children referred from paediatricians were consistent in 34.0% of referrals. In the time frame 14.5% of children were determined normal at the clinic appointment. It is possible that children referred with positional plagiocephaly had resolution of their skull flattening at the time of review in clinic and were thus diagnosed as normal.

As is consistent with population density the majority of the referrals were from Dublin (36.6%) with 8.7% from Cork and 5.5% from Galway. Children under the age of 3 months require a full anaesthetic or sedation to obtain good quality views and CT scan. Children under the age of 3 years require a full anaesthetic or sedation to obtain good quality views and thus availability of a paediatric anaesthetist is essential. For the same reason, MRI imaging for investigation of soft tissue or intra-cranial abnormalities are best performed with paediatric anaesthetic support and within a multidisciplinary setting with a high patient throughput. With expansion of its case load from 2008 to 2012 the centre has seen an increase in the number of referrals received. This is in part a reflection of increased awareness and diagnosis of conditions in the community and paediatric services. This increase has been reported in other craniofacial units.

No preliminary investigations are expected for referral to the centre particularly if it delays the referral. A common mis-endeavour when craniosynostosis is suspected is to perform a plain skull x-ray. This investigation is challenging to report and does not give a definitive diagnosis of craniosynostosis- in the year review of referrals, 3.4% of children referred with an incorrectly reported x-ray. The investigation of choice is a 3D skull and facial bones CT scan. Children under the age of 3 years require a full anaesthetic or sedation to obtain good quality views and thus availability of a paediatric anaesthetist is essential. For the same reason, MRI imaging for investigation of soft tissue or intra-cranial abnormalities are best performed with paediatric anaesthetic support and within a multidisciplinary setting with a high patient throughput. With expansion of its case load from 2008 to 2012 the centre has seen an increase in the number of referrals received. This is in part a reflection of increased awareness and diagnosis of conditions in the community and paediatric services. This increase has been reported in other craniofacial units.

In order to guide referring physicians on important information required and aid in the management of an increasing number of referrals, the NPCC have introduced a structured referral form available on the www.cuh.ie and www.cuhc.ie websites. The form is similar to referral forms used at the craniofacial centre in The Hospital For Sick Children Toronto and Great Ormond Street Hospital”. The aim is that this referral form will standardise referrals and ensure that there is consistency across the professional bodies. Pre-clinic information referring patient weight, height and head circumference parameters can be plotted at referral and referenced again at outpatients to monitor growth and development. Radiology images, if available can also be forwarded with referrals and used to facilitate the intra-disciplinary meetings. Interpreter services can be arranged pre-appointment if required. The craniofacial team may also contact referring physicians if more information is required.

The new referral pathway will enhance communication between the NPCC and referring specialty and the family of children referred. This in turn will aid in the management of the increasing number of referrals, and a new information section on the website detailing features of the most common craniofacial disorders will hopefully aid diagnosis and act as a useful guide for referrals.

Acknowledgements

References


A Review of Craniofacial Referrals to the NPCC and Introduction of a New Referral Pathway

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A Review of Craniofacial Referrals to the NPCC and Introduction of a New Referral Pathway