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Title (type in CAPITAL LETTERS, leave one blank line before the text):

RE-TETHERED CORD SYNDROME IN MYELODYSPLASIA AND THE IMPORTANCE OF UROLOGICAL FOLLOW-UP IN THE EARLY DIAGNOSIS.

Aims of Study: : Secondary tethering of the spinal cord after primary repair of the spinal lesion in children with myelodyplasia is a well known risk factor for further neurologic deterioration primarily affecting the lower urinary tract. Thus, early diagnosis of the re-tethered cord syndrome is important to minimize irreversible neurologic damage. The aim of this study was to investigate the incidence of the re-tethered cord syndrome after primary repair in children with myelodysplasia and its effect on the bladder and sphincteric function. Another aim was to assess the role of urological follow-up in the early diagnosis of the re-tethered cord syndrome.

Methods: Between the years 1995 and 1999, a total of 191 children (average age 28 months with a range of 1 month to 12 years) with a primarily repaired myelodysplastic lesion have been enrolled into this study. The primary spinal lesion was myelomeningocele in 113 (62%), myelochisis in 43 (26%), tethered cord in 12 (8%) and dermoid sinus in 7 (4%). All children were followed up in our multidisciplinary spina bifida clinic including a pediatric neurosurgeon, pediatric internist, pediatric neurologist and a neuro-urologist. Neuro-urological evaluation and follow up of children consisted of urine analysis and culture, urodynamic studies, voiding cysto-urethrogram and urinary system ultrasonography. The frequency of follow up has been arranged according to the risk of neuro-urological deterioration as described in the literature [1]. During follow-up, children who showed worsening of urodynamic parameters or deterioration in urinary tract imaging were further evaluated for re-tethering of the spinal cord by magnetic resonance imaging (MRI) and tibial somatosensory evoked potentials (TSEP). A decrease in bladder compliance and/or a development of detrusor hyperreflexia and/or detrusor sphincter dyssynergia and/or worsening of incontinence was defined as a urodynamic deterioration. A new appearing or increasing vesico-ureteral reflux was defined as a radiological deterioration.

Results: Deterioration of urodynamic and/or radiological parameters was observed in 38 (20%) of 191 children. Further evaluation of these 38 children with MRI and TSEP revealed a re-tethered spinal cord in 26 (14%) children. Additional 4 children in our study group who did not have any urodynamic and/or radiological deterioration during follow up were also diagnosed with a secondary tethering because they developed a peripheral neurological deterioration in the lower extremities as detected by routine neurological examination. The time interval between primary repair and diagnosis of re-tethering in a total of 30 children (16%) ranged from 4 months to 14 years (average 59 months). In the present study population, the accuracy, sensitivity and specificity rates of a neuro-urological deterioration in the diagnosis of a re-tethered spinal cord were found to be 88%, 87% and 92%, respectively.

Conclusion: Our study has shown that after the primary repair of their spinal

cord, 16% of children with myelodysplasia are under the risk of a secondary tethering where 87% of these are diagnosed by a neuro-urological surveillance, only. These findings underline the extreme importance of a neuro-urological follow up in children with myelodysplasia after the primary spinal surgery. Since a secondary tethering may occur even at 14 years after the primary closure, the long-term follow-up appears to be necessary.

Reference:

1. Predictive value of urodynamic evaluation in newborns with myelodysplasia. JAMA, 252:650-2, 1984.

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Title (type in CAPITAL LETTERS, leave one blank line before the text):

QALYS: AN OBJECTIVE CONTINENCE OUTCOME MEASURE TO DETERMINE THE COST EFFECTIVENESS OF CONSERVATIVE UROGYNAECOLOGICAL TREATMENTS

Aims of study: Within the health system there appears to be a continuing trend towards increasing costs of treatments despite a declining total health budget. Therefore the costs of treatments and the resulting outcomes are being assessed. A treatment must be cost effective both in terms of the input cost and the output of the clinical result, in order to compete for a finite slice of the health cake. Thus a common yardstick is needed to compare each treatment with another.

The Quality Adjusted Life Year (QALY) is one way in which various unrelated treatments can be compared. A QALY is based upon a quality of life score (QOL) from 0 to 1, with '0' being equivalent to death and '1' to perfect health. One QALY unit represents a year spent in perfect health. The costs of treatments are calculated and then divided by the increased amount of QALY's that have been generated, to obtain a cost/QALY. An efficient treatment will generate positive QALY's at a low cost/QALY.

Our aim was to determine the cost effectiveness of two different regimes for the conservative treatment of urinary incontinence. In particular was it more cost effective to send patients to a Nurse Continence Advisor (NCA) or to the Urogynaecologist (UG), in terms of cost, objective outcomes and improvement in quality of life?

Methods: Quality of life was assessed using a validated QOL/QALY questionnaire, the York Questionnaire (1). Patients were prospectively randomised to treatment with either a UG (N= 76) or a NCA (N= 74). Inclusion criteria were urodynamically proven GSI, GSI/DI or DI with a one hour pad test loss of 2- 50 grams. Randomisation was stratified into mild urinary incontinence (pad test 2-9.9 g) or moderate urinary incontinence (pad test 10-50 g). Exclusion criteria were: absent pad test loss or severe pad test loss (>50g), prolapse beyond the introitus, malignancy, voiding difficulty, ring pessary in-situ, recurrent cystitis, and residence outside the metropolitan area. These exclusions were made to ensure that the patients did not have other confounding gynaecological problems, and that they were able to regularly attend for intensive weekly treatment if so randomised.

The UG group was given routine instruction regarding pelvic floor exercises, bladder training, and given vaginal cone weights or anticholinergic drugs when clinically indicated. Patients were also referred to an "outside" physiotherapist if their pelvic floor tone was very weak or acontractile.

After six to eight weeks patients were seen for 15 minutes, and conservative treatment continued. The "intensive" NCA group attended the NCA weekly for 30 minutes and received all of the above treatments, in addition electrical stimulation and perinometer biofeedback was also offered.

Outcome measures at baseline and three months were leaks/week, pad test , and the York Questionnaire.

Both direct and indirect costs were assessed including: consultation costs (NCA A$22/hr, UG A$80/hr