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Authors: Ute Grigoleit¹, Gerd Mürtz², Mark Goepel³, Guus Kramer¹, Manfred Stöhrer¹
Institution: 1Department of Urology, Berufsgenossenschaftliche Unfallklinik Murnau; 2Apogepha, 3Department of Urology, University of Essen
Title: EFFICACY AND SAFETY OF PROPIVERINE HYDROCHLORIDE IN CHILDREN WITH DETRUSOR HYPERREFLEXIA DUE TO MYELOMENINGOCELE – A RETROSPECTIVE ANALYSIS

Aims of the study:

Clean intermittent catheterization (CIC) and anticholinergics are established therapeutic strategies in children with detrusor hyperreflexia due to myelomeningocele (MMC). Efficacy and safety of propiverine hydrochloride, an anticholinergic with additional direct spasmolytic effect on smooth muscle cells, were evaluated for MMC-children in a retrospective analysis.

Methods:

Patient records of 244 MMC-children were scrutinised. Urodynamic parameters (maximum bladder capacity, maximum detrusor pressure, compliance) and adverse events were assessed before and after propiverine treatment. The urodynamic data were analysed by paired t-tests.

Results:

Twenty-seven children (13 boys and 14 girls; age 2.3-19 years) had been treated for an average of 25 months with an individual daily dosis between 5 and 60 mg. The treatment periods ranged from 4 to 55 months. Thirteen children had been on α -blockers before, 15 had discontinued the use of other anticholinergics (oxybutynin, trospium chloride) due to adverse events. All urodynamic parameters improved significantly under propiverine: Maximum bladder capacity increased from 144 (SD 97) to 263 ml (SD 120), $p=0.0001$. Maximum detrusor pressure decreased from 60.5 (SD 44.6) to 33.2 cm H₂O (SD 21.2), $p=0.0056$. Compliance increased from 7.5 (SD 8.0) to 18.3 ml/cm H₂O (SD 13.1), $p=0.0009$. Two patients discontinued propiverine because of insufficient suppression of hyperreflexic contractions. None of the patients reported adverse events under propiverine.

Conclusions:

Propiverine is effective in MMC even when other anticholinergics have failed. Adverse events were not noted in this study