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OUTCOMES OF BOTULINUM TOXIN TREATMENT FOR CHRONIC IDIOPATHIC CHILDHOOD CONSTIPATION

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Aim: Botulinum toxin (BT) is a well-recognised treatment of intractable constipation refractory to medical treatment. The aims of this study were to assess the short and long-term outcomes of BT injection into the external anal sphincter muscles (EAS) for treatment of chronic idiopathic constipation (CIC) in children.

Methods: All patients with CIC treated with BT were included from January 2009 to July 2016. We injected BT (Dysport®, IpsenLtd) 12 units/kg (maximum 200 units) in divided doses into the EAS muscles under endosonography guidance at 3 and 9 o'clock positions. Patients had anorectal manometry and colonic transit and their demographics, co-morbidities and symptoms were recorded. Parents were asked to complete a validated Symptom Severity (SS) questionnaire pre-operatively and at 3 months and 12 months follow up. The scores included eight domains with the sum of the scores ranging from 0(best) to 65(worst). A follow-up telephone call was made to assess longer-term outcomes. Statistical analysis of data was performed using the Wilcoxon signed rank test and data presented as median (range). P-value of <0.05 was considered significant.

Main Results: 103 patients underwent treatment with BT during the study period. The median age at presentation was 7 years (2-15.5 years). 56 (54%) patients were male and 31 (30%) had behavioural co-morbidities. The pre-operative SS score improved significantly from median 32(13-53) to 22 (0-45) at 3 months follow up, $p<0.05$. The improvement in SS score was maintained at 12 months follow up, 13 (0-48), $p<0.05$. 20 (19%) patients required formation of an antegrade continence enema (ACE) stoma.

Conclusions: Botulinum toxin injection into the external anal sphincter muscles is an effective treatment of children with intractable constipation not responding to conventional treatment. In our experience 81% of patients responded to BT treatment.