

# Non-animal hyaluronic acid/dextranomer gel (Deflux®) for endoscopic treatment of grade IV vesicoureteral reflux: long-term outcomes based on patient records

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# Disclosures

- Göran Läckgren: Speaker at teaching courses for Ferring AB, Sweden; Medical adviser and speaker at instructional courses for Palette AB, Sweden
- All other authors: None



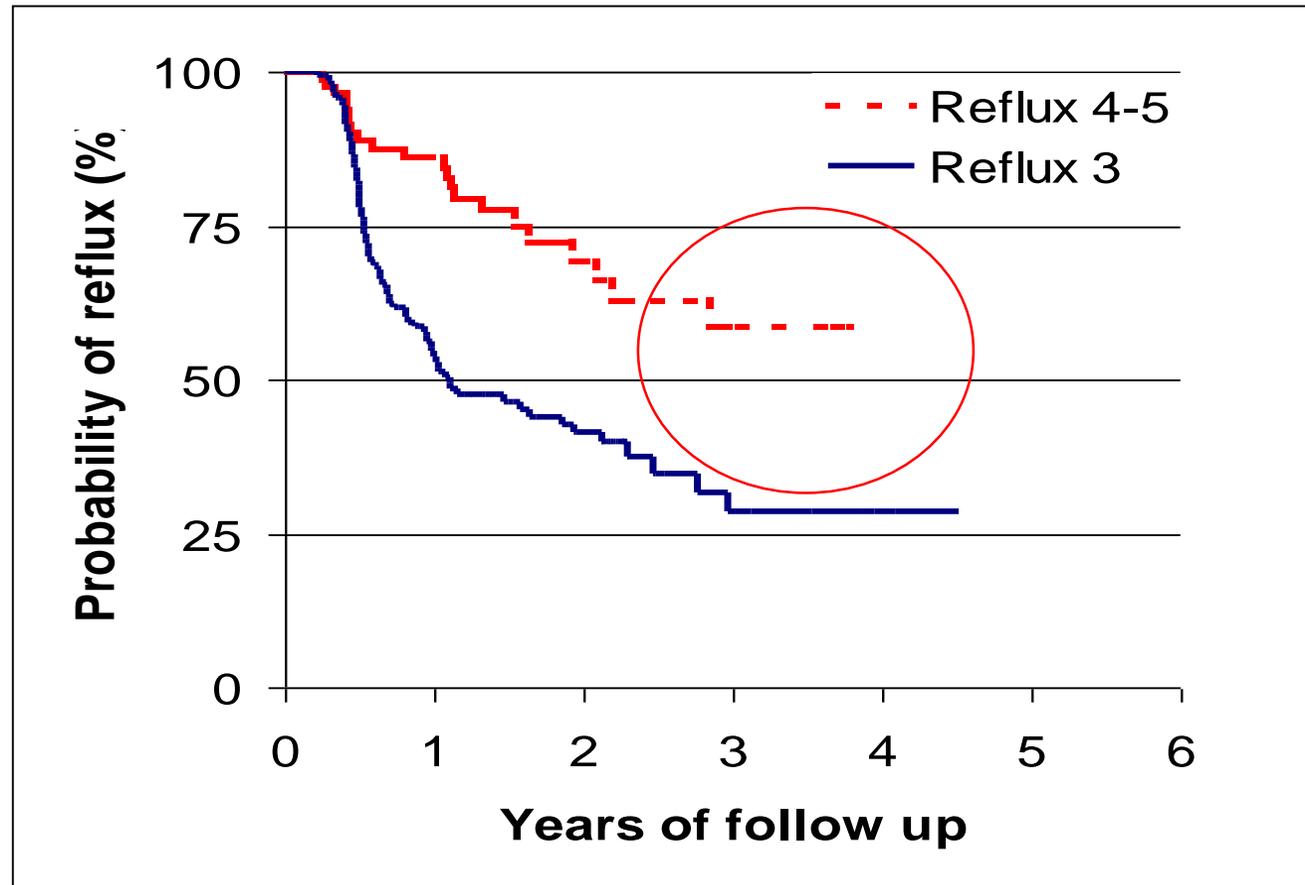
# Background

- Prior to 1993 all patients with persistent grade IV-VUR underwent open surgery. Even today grade IV is considered, in some centers, as an indication for open surgery.
- From 1993 all patients with grade IV reflux were treated consecutively with endoscopic Deflux®



# Spontaneous resolution of VUR becomes less likely with increased severity of reflux

Swedish children, 1–2 years of age



# Material

- All patients diagnosed with grade IV VUR after a febrile UTI who had persistent dilating reflux documented by a new VCUG after >1 year of antibiotic prophylaxis (mean 22mths) were treated with Deflux<sup>®</sup> (NASHA/Dx gel) from 1993-2003
- Charts from Uppsala University Hospital and local county hospitals were studied, and post-treatment VCUG results were analyzed
- Duration of follow-up: 15-25 years

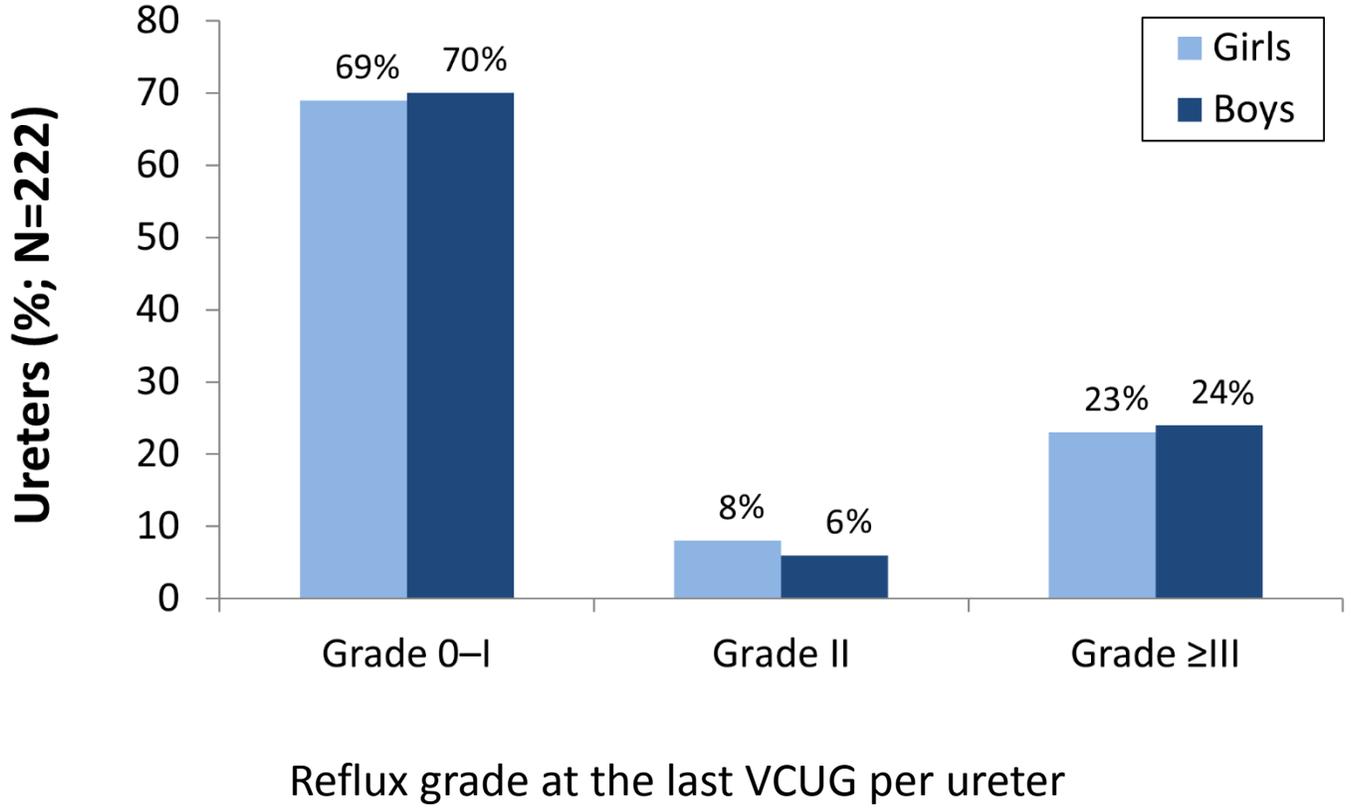


# Results

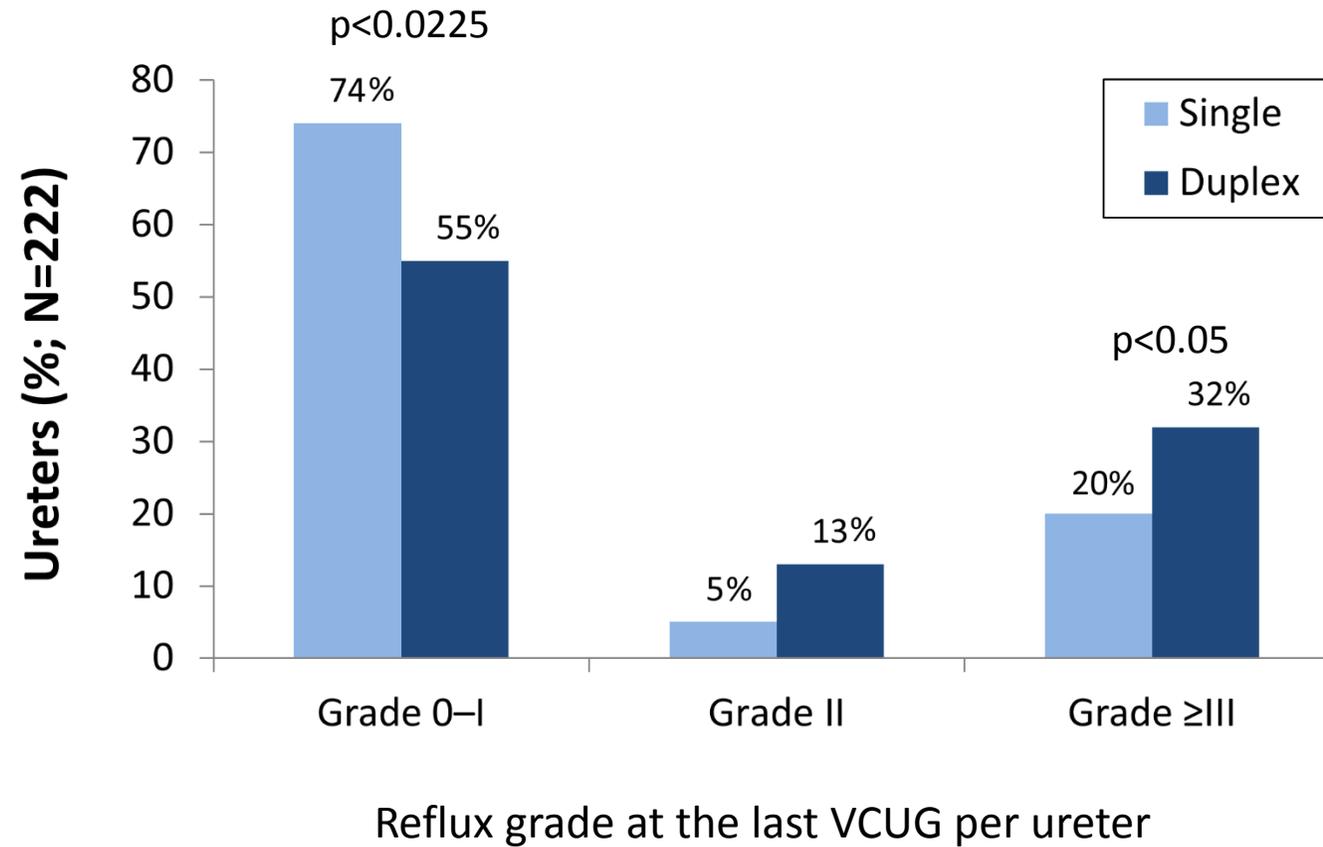
- Total number of patients: 185 (69 boys, 116 girls)
  - Total number of grade IV ureters: 237
  - Duplex systems: 55 ureters
- Mean age at treatment:
  - Boys: 35 months
  - Girls: 45 months
- Mean number of endoscopic treatments per patient: 1.46
- Mean volume of Deflux<sup>®</sup> injected: 0.72 mL/ureter
- Follow-up VCUG after the last treatment was performed in 173 patients (222 ureters)



# Results overall



# Results single vs duplex



# Results

- 41 patients (22%) had persistent VUR grade III–V and were submitted to open surgery (ureteral reimplantation)
- There was a decrease of the number of reimplantations in the second 5 year period
  - 34 (1993-1998)
  - 12 (1998-2003)



# Long term results

- Only 5 patients (3%) underwent late ureteric reimplantation (6–10 years after Deflux® treatment)
  - one female: late obstruction and pyelonephritis 10 years after the last VCUG
  - two females: obstructive refluxing megaureter at the time of Deflux® treatment (now a contraindication)
  - one male and one female: initially cured, recurrent lower UTIs and bladder dysfunction, VCUG → dilating reflux

*One male: incidental finding of calcification around the Deflux® implantation site observed on routine examination 2 years after endoscopic treatment; no intervention required*



# Conclusions

- Longest follow-up of VUR patients undergoing endoscopic treatment with Deflux<sup>®</sup> (15–25 years)
- Treatment with NASHA/Dx gel was effective and durable
  - 75% of patients did not need open surgery
  - Low incidence of late complications (UTI, persistent VUR, need for open surgery)
- We recommend endoscopic injection of Deflux<sup>®</sup> in patients with grade IV reflux, even in those with duplex systems

