P067 Ureteral stents and vesicoureteral reflux: Experimental assessment of the rate and grade in porcine animal model

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Introduction & Objectives: The objective is to assess the presence and degree of Vesicoureteral Reflux caused by a Double-J ureteral stent in the porcine model. Assessing the repercussions this may have on the appearance of flank pain.

Materials & Methods: We used 24 females' porcine models. After ultrasonographic, endoscopic and contrast fluoroscopic assessment, the VUR (Vesicoureteral Reflux) was assessed using Simulated Voiding Cystography. The presence of VUR, as well as its grade, was evaluated by the Grading System for VUR according to the "International Reflux Study Committee". After ruling out VUR in the baseline study (Phase-I), a 4.7Fr ureteral stent was unilaterally placement. Follow-ups were performed at 3 (Phase-II) and 6 weeks (Phase-III), which coincides with stent removal. The final follow-up was carry out at 5 months (Phase-IV) using the above-mentioned diagnostic techniques.

Results: The basal assessment did not demonstrate any anomaly with 100% absence of VUR. In Phase-II, 79% of VUR, 94.7% Grade-I (exclusively in the distal ureter) and 5.3% Grade II were found. Phase-III, despite showing an increase in the VUR rate (87.5%), it do not show statistical significance. About the grade of VUR, no significance changes were confirmed during the stenting duration, with 95.3% and 4.7% of Grade I and II at six weeks, respectively. In Phase-IV, 91.7% of the animals did not have reflux, compared to 8.3% with grade I RVU, with no statistical significance to the baseline study.

Conclusions: The manifestation of vesicoureteral reflux is a direct consequence of ureteral double J stents, with an incidence rate in the animal model higher than 80%, until six weeks. However, this is generally low grade and in most cases only affects the last segment of the distal ureter. Therefore, the association of flank pain with VUR in stented patients may not be direct. So it may be that the association of flank pain with VUR in stented patients may not be as direct as suspected so far.