Conclusion: This case emphasizes the potential for stone formation when non-absorbable sutures are used in the urinary tract. When we encounter a urolithiasis that locates over the place where a prior surgical procedure was done, we should keep in mind to find out any possible non-absorbable material remains.

PD3-2:
TRPV1 HYPERFUNCTION IMPAIRS RENAL SENSORY RESPONSE IN THE RAT HYPEROXALURIC KIDNEY
Ming-Chieh Ma 1, Ho-Shiang Huang 3, School of Medicine, Fu Jen Catholic University, New Taipei City, Taiwan; 2 Department of Urology, National Cheng Kung University, Tainan, Taiwan

Purpose: We previously demonstrated that renal sensory function in response to mechano- and chemo-stimulation was impaired in rat kidneys with hyperoxaluria and/or calcium oxalate (CaOx) crystals. The transient receptor potential vanilloid 1 channel (TRPV1) is known to present in rat kidneys and responsible for activation of afferent renal nerve activity (ARNA) and induction of diuretic renorenal reflex. The present study therefore tests whether TRPV1 dysfunction may be the underlying mechanism for contribution to sensory impairment seen in the hyperoxaluric kidney.

Materials and Methods: Acute hyperoxaluria was induced by intrapelvic perfusion of oxalate into renal pelvis, a tissue area mostly originated for organ tissues. Whether cell therapy is effective to alleviate tubular cell damage and calcium oxalate crystal formation in the rat hyperoxaluric kidney.

Results: Compared to vehicle-treated HP rats, plexiraxor significantly attenuated CaOx crystal deposition and increased the amount of urinary sediment after 28-day treatment but without any effect on hyperoxaluria and supersaturation at both time-points. Interestingly, circulating CD34+CXCR4+ cells were markedly elevated in the plerixafor-treated rats after 7 days and persisted thereafter. This was associated with an increase in renal expression of stromal cell-derived factor 1 (SDF-1) in the plerixafor-treated kidneys for 7 and 28 days. The urinary contents of two anti-crystallization molecules, osteopontin (OPN) and Tamm-Horsfall protein (THP), in the plerixafor-treated HP rats were significantly increased as compared to those in the vehicle-treated HP groups for 7 and 28 days. This associated with an attenuation of enzymuria for tubular damage markers, α- and β-glutathione-S-transferase (GST). Moreover, renal contents of OPN, THP, αGST, and βGST in the plerixafor-treated HP rats were higher than those in the vehicle-treated HP groups at both time-points.

Conclusion: These results clearly indicate that the anticrystallization effect of plexiraxor is possibly related to an increase in CD34+CXCR4+ cell homing to the injured hyperoxaluric kidney with a higher SDF-1 expression, which attenuates tubular cell injury and against CaOx crystal formation by maintenance of renal production of OPN and THP. Attenuation of cell debris desquamated from damaged tubular cells may prevent seeding effect for calcium crystal formation in growth.

PD3-4:
LONG-TERM PRESCRIPTION of α-BLOCKERS DECREASE THE RISK OF RECURRENT UROLITHIASIS NEEDED FOR SURGICAL INTERVENTION-A NATIONWIDE POPULATION-BASED STUDY
Chia-Chu Liu 1,2,3, Hui-Min Hsieh 4, Chia-Fang Wu 4, Tusty-Jiuan Hsieh 5, Shu-Pin Huang 5,6, Yii-Her Chou 1,2, Chun-Nung Huang 1,2, Wen-Jeng Wu 1,2, Ming-Tsang Wu 6,6, 1 Department of Urology, College of Medicine, Kaohsiung Medical University, Kaohsiung City, Taiwan; 2 Department of Urology, Kaohsiung Medical University Hospital, Kaohsiung Medical University, Kaohsiung City, Taiwan; 3 Department of Urology, Pingtung Hospital, Ministry of Health and Welfare, Executive Yuan, Pingtung, Taiwan; 4 Department of Public Health, Kaohsiung Medical University, Kaohsiung City, Taiwan; 5 Department of Medical Genetics, College of Medicine, Kaohsiung Medical University, Kaohsiung City, Taiwan; 6 Department of Family Medicine, Kaohsiung Medical University Hospital, Kaohsiung Medical University, Kaohsiung City, Taiwan

Purpose: α1 receptors and subtypes have been confirmed to distribute in human pelvis and calyces recently. As used in ureteral stones, α-blocker treatment may facilitate kidney stone passage and long-term prescription of α-blocker may decrease the risk of recurrent urolithiasis. The aim of this study is to determine if use of α-blockers 180 days or more can decrease the risk of recurrent urolithiasis needed for surgical intervention.

Materials and Methods: A representative database of 1,000,000 patients from Taiwan’s National Health Insurance was analyzed. Eligible patients were those who had received the first-time procedure for upper urinary stone removal, including extracorporeal shock-wave lithotripsy, ureterorenoscopic lithotripsy, or both, between 2000 and 2010. After completing a 180-day treatment for first event, patients were prospectively followed-up until a second set of stone procedures was performed (proxy of stone recurrence), loss to follow-up, or end of study. The effect of percentage of total number of days of α-blocker use on need for second set of stone