

3<sup>rd</sup> Euro-Global Experts Meeting on

# Medical Case Reports

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## Smart and living implant equipped with active therapeutics and stem cells for regenerative nanomedicine

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Recently, we have reported an active nanostructured collagen implant reinforced with human stem cells for bone regeneration. In our group, we have reported a "Smart Hybrid Materials Equipped with Nanoreservoirs of Therapeutics and stem cells". This unique nanotechnology strategy is used to entrap, protect and stabilize therapeutic agents into polymer coatings acting as nanoreservoirs enrobing nanofibers of implantable membranes. Upon contact with cells, therapeutic agents become available through enzymatic degradation of the nanoreservoirs. As cells grow, divide and infiltrate deeper into the porous membrane, they trigger slow and progressive release of therapeutic agents that, in turn, stimulate further cell proliferation. This constitutes the first instance of a smart living nanostructured hybrid membrane for regenerative medicine. The cell contact dependent bioerodable nanoreservoirs described here will permit sustained release of drugs, genes, growth factors, etc., opening a general route to the design of sophisticated cell-therapy implants capable of robust and durable regeneration of a broad variety of tissues.

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## Inverted papilloma of ureter: A rare case of non urothelial type of urinary tumor

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A 62-year old male patient presented complaining of intermittent macroscopic hematuria. The ultrasonographic investigation revealed a hydronephrosis of remarkable degree with indiscrete renal parenchyma. The abdominal computed tomography scan identified a ureteral lesion with proximal dilatation, hydronephrosis and a functionless ipsilateral renal unit. The retrograde urography showed a 4 cm lesion with multiple filling defects and a smooth contour. The endoscopic examination showed an exophytic lesion, highly suspicious for malignancy. Urine cytology revealed atypia. Right nephroureterectomy was performed and the pathology revealed a ureteral inverted papilloma (UIP). Polymerase chain reaction examination for the presence of human papilloma virus, using GP5+/6+ consensus primers, was negative. The presence UIP should be considered in patients with urothelial lesions in the ureter when the diagnostic workup for malignancy is inconclusive. The clinical course of the disease seems to be favorable.

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