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Current evaluation and management of renal and ureteral stones

Dear Sir,

I read with interest Dr. Gettman and Dr. Segura's excellent and comprehensive review on renal and ureteral stones. The accuracy of the given scientific facts and figures is most impressive. The reported line of management, undoubtedly, represents the optimum of standard for stone management that is most suited for American patients and adopted at their highly specialised centre of excellence. One observes a different line of management at most general hospitals. The objectives and standard of therapy remain the same: to preserve the patient and his kidney and leave him stone free. In addition to the urologist’s experience, availability of technology, equipment and variables related to the patient and his stone that determine the best line of management, there are other factors that affect the choice of therapy particularly in our region: socio-economics and patient’s compliance. The ironic fact is that most patients in Western countries get their expensive therapy free on Ministry of Health (MOH) or financed by the insurance while the poor and middle class patients in other world countries may have to pay from their own pockets. So an ideal therapy for an American patient, treated at a high tech centre with well-trained staff and a full range of high tech equipment regularly updated and fed with continuous supplies, may not be applicable elsewhere. Updating to the latest Lithotripters, spiral computerized tomography (CT) and laser machines may be impossible when it is outdated or its limitations, drawbacks and serious complications were discovered before it recovered its basic cost or value.

Figure 1 - Urography films of a 29-year old female with 1cm stone in the renal pelvis, demonstrates right renal drop of >2.5 vertebrae. Overlooking the demonstrated nephroptosis and its pelvi-ureteric kink may caused problems post extracorporeal shock wave lithotripsy and recurrent stone formation. Even successful stone therapy does not relieve the recurrent episodes of renal pain. (a) Supine. (b) Erect.
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Figure 2 - Supine and erect plain x-ray of a 25-year old male, (a) showing stones at the renal pelvis. (b) Lower calyx of a right nephroptosed kidney.

Figure 3 - Urography of a 25-year old female suffering from recurrent episodes of renal pain demonstrates bilateral nephroptosis of 3 vertebrae with right pelvi-ureteral kink obstruction and renal rotation. (a) Supine film misses the diagnosis. (b) Erect film. Agnosing pain is caused by protic renal pedical stretch that may be depicted from but is not directly shown on upright film. Neuro-vascular ischaemic renal pain of pedicle stretch requires sophisticated methods for objective evaluation.
for money. Most hospitals do not have a spiral CT to make it the first line imaging for stones. Hence, intravenous urography (IVU) remains the "Gold Standard" investigation. Despite its shortcomings, IVU has an advantage that all modern ancillary machines, including Spiral CT, can not match. There is a condition not mentioned in the differential diagnosis list (Table 1) on loin pain, namely Symptomatic nephroptosis (SN) (Figure 1a and 1b). Symptomatic nephroptosis is related to the subject of stones on more than one account. It causes more severe pain and incapacitation than renal and ureteral stones and likewise may present with pain and hematuria episodes. Symptomatic nephroptosis is a more common cause of acute abdomen than stones among young females in Najran. It may predispose to stone formation (Figure 2a and 2b) and cause problems after extracorporeal shock wave lithotripsy (ESWL) therapy. Being unmentioned in most modern textbooks, it is a generally overlooked diagnosis (Figure 3a and 3b). It is missed on all supine imaging, including ancillary machines that are capable of supine imaging only. Intravenous urography with an erect film retains superiority for clinching the diagnosis of SN and its pelvicalyceal features and complications (Figures 1-3). A patient who is compliant, and capable of discussing therapy options and understanding its percentage of success is an important variable in the formula of optimum therapy. Being dazzled by the magic of advertising on high tech machines, they view any complication as the Urologist’s failure, ignorance or neglect. Out of a dozen patients who were advised that their stones were too large for ESWL therapy and went for it elsewhere, 6 discovered the truth the most expensive and painful way. Four patients suffered for weeks while stone fragments were excreted or removed endoscopically, 2 were left with their stone unaltered after repeated ESWL sessions and 2 ended up with non-functioning kidneys. Operating on a renal stone after ESWL therapy has proved a dangerous procedure. The point here is that the Urologist remains the surgeon in charge with all equipment and tools at his disposal, from which to select the best line of management that achieves the main objectives of therapy at optimum safety, cost and time.

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Reply from Author

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