

Interesting images

Atypical Prostatic Stromal Sarcoma Presented with T2WI Central Heterogeneous Hyperintense Lesion Showing Peripheral Zone & Peri Prostatic Fat Invasion

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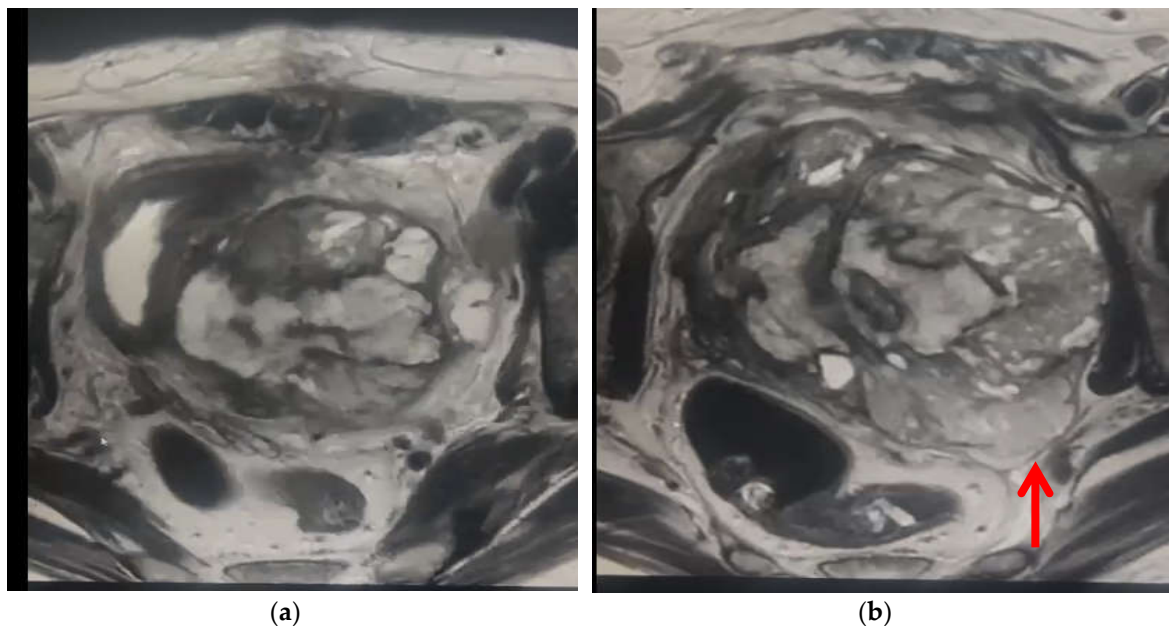
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Abstract: We present a case of neglected atypical high grade prostatic stromal sarcoma (PSS) at the transitional zone, invading the peripheral zone, prostatic capsule & peri prostatic fat reaching to pelvic side wall, it showed T2WI hyperintense signal (compared to typical cases of PSS showing T2WI hypointense signal) corresponding to developing on top of pre-existing nodular hyperplasia. Careful reviewing of prostatic central / transitional zone lesions is mandatory especially at T2WI, diffusion & contrast images to exclude malignancy which can be easily missed due to multiple signal patterns described. Most common tumors at transitional zone is stromal sarcoma which could be typical showing T2 hypointense signal or atypical showing T2 hyperintense signal intensity.

Abbreviations: PSS :prostatic stromal sarcoma. PSA: Prostatic specific antigen. PCa; prostatic cancer. CZ: Central zone. PZ: peripheral zone. TZ: transitional zone. KSA: Kingdom of Saudi Arabia.

Keywords :prostatic carcinoma; MRI prostate; MRI prostate stromal sarcoma

Figures:



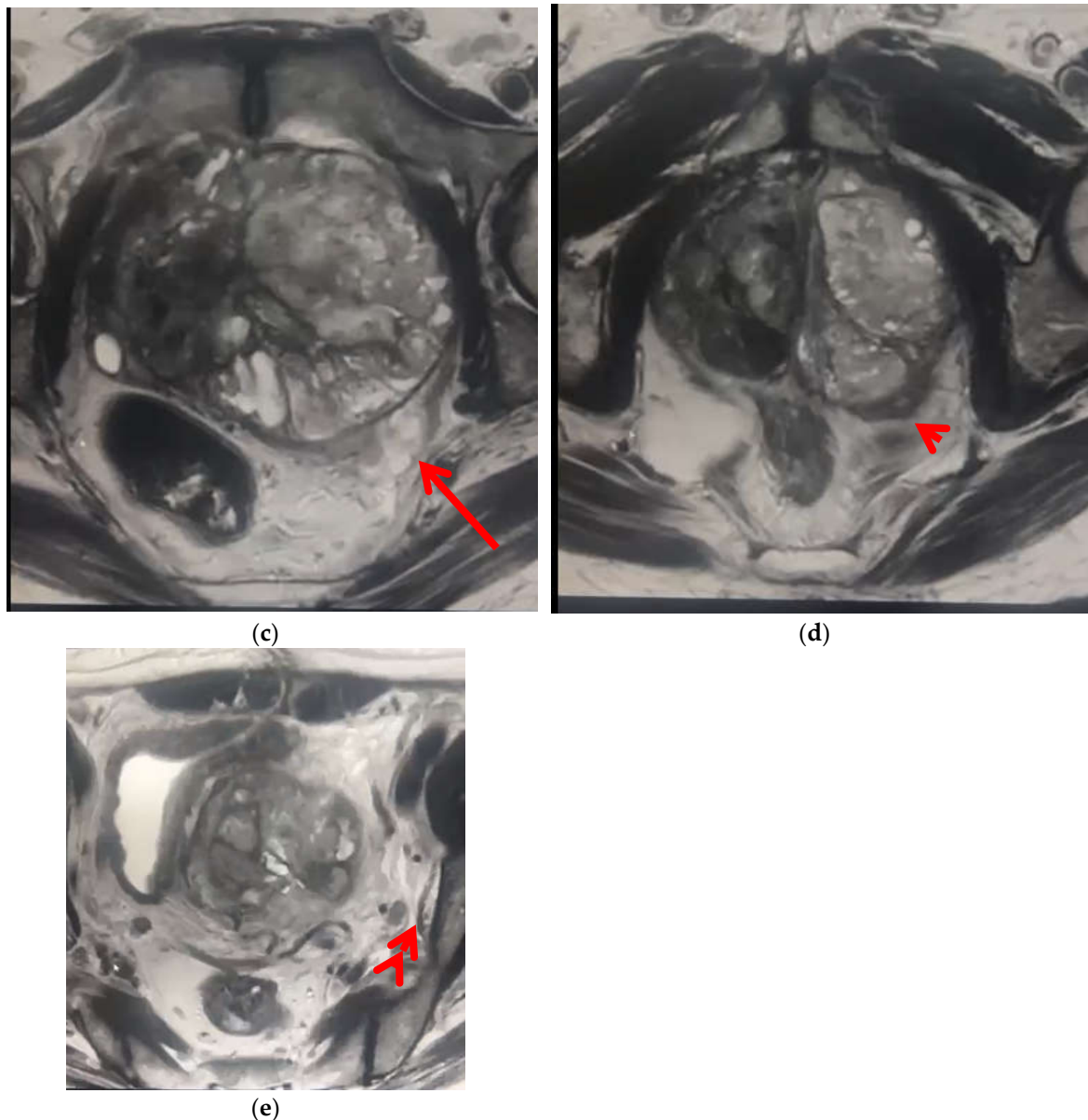


Figure 1. Axial T2WI at: A: upper part of the gland,, B & C: at mid part of the gland,, D: at lower part of the gland showing: -RT. lobe at both zones (TZ & PZ) [mainly at mid and lower parts of the gland] shows large area of heterogeneous mixed signals hypo & hyperintense signals suggesting hemorrhage as a post biopsy changes (patient did biopsy in another hospital 3 weeks ago with no histopathology provided from that biopsy) . -LT. lobe at all parts of the gland (mainly mid & lower parts) shows large bi-zonal mass (mainly central zone) invading the left posterior part of the peripheral zone at mid gland (arrows at B) , prostatic capsule & regional peri prostatic fat (arrow at C), showing small numerous areas of cystic necrosis. Regional small L.Ns are also shown (double arrow heads at E image). -Note :peripheral zone showing hyperplastic nodule (arrow head at D image) which could explain the hyperintense signal of the tumor at T2WI as developing on top of benign hyperplastic nodules. ((Typical cases of TZ prostatic cancer appear at T2WI as a focal, homogeneous hypointensity against a background of the high-signal-intensity glandular tissue with ill-defined margins (“erased charcoal sign”), lenticular shape with no peripheral zone or capsule invasion. [12,13])) ((Atypical cases of TZ prostatic cancer appear at T2WI as a hypointense or slightly hyperintense lesion showing irregular margins . **T2-hyperintense signal likely due to oedema or mucin or arising on top of benign prostatic hyperplastic nodules.**[14-16])).

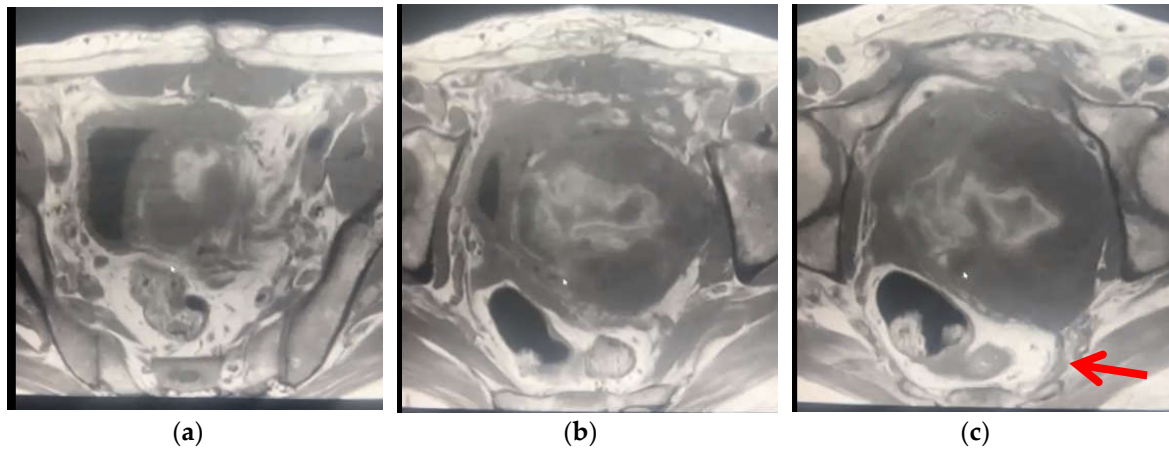


Figure 2. Axial T1WI : A image at upper part of the gland, B:at mid part of the gland and C at lower part of the gland. RT.lobe: shows irregular area of mixed signals (mainly hyperintense signal) extending to central area ...late sub acute & chronic hematoma of post biopsy changes. LT.lobe: showing Large central mass of hypointense signal ,extending to the LT. postero-lateral aspect of peripheral zone & peri-prostatic fat,, non separable from mesorectal fascia (arrow at C image). Preserved peri rectal fat.

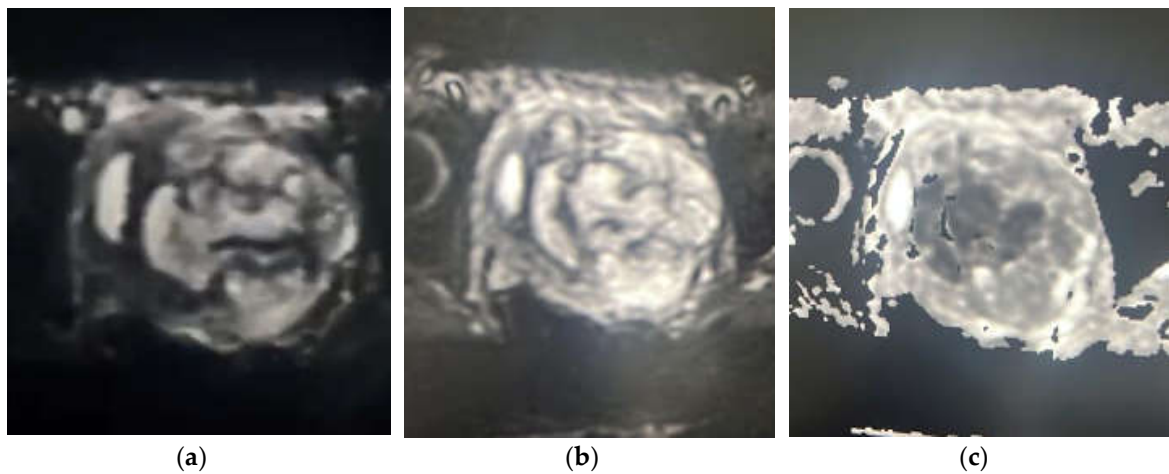


Figure 3. Diffusion images:A & B: diffusion images at different levels at b 800,, C :ADC map. RT.side of the gland at the sites of old hematoma of post biopsy changes shows significant diffusion restriction: hyperintense signal at A & B images with hypointense signal at C. LT.side: A & B show hyperintense signal with mild hypointense signal at C.....mild diffusion restriction of the tumor at left side of the gland.

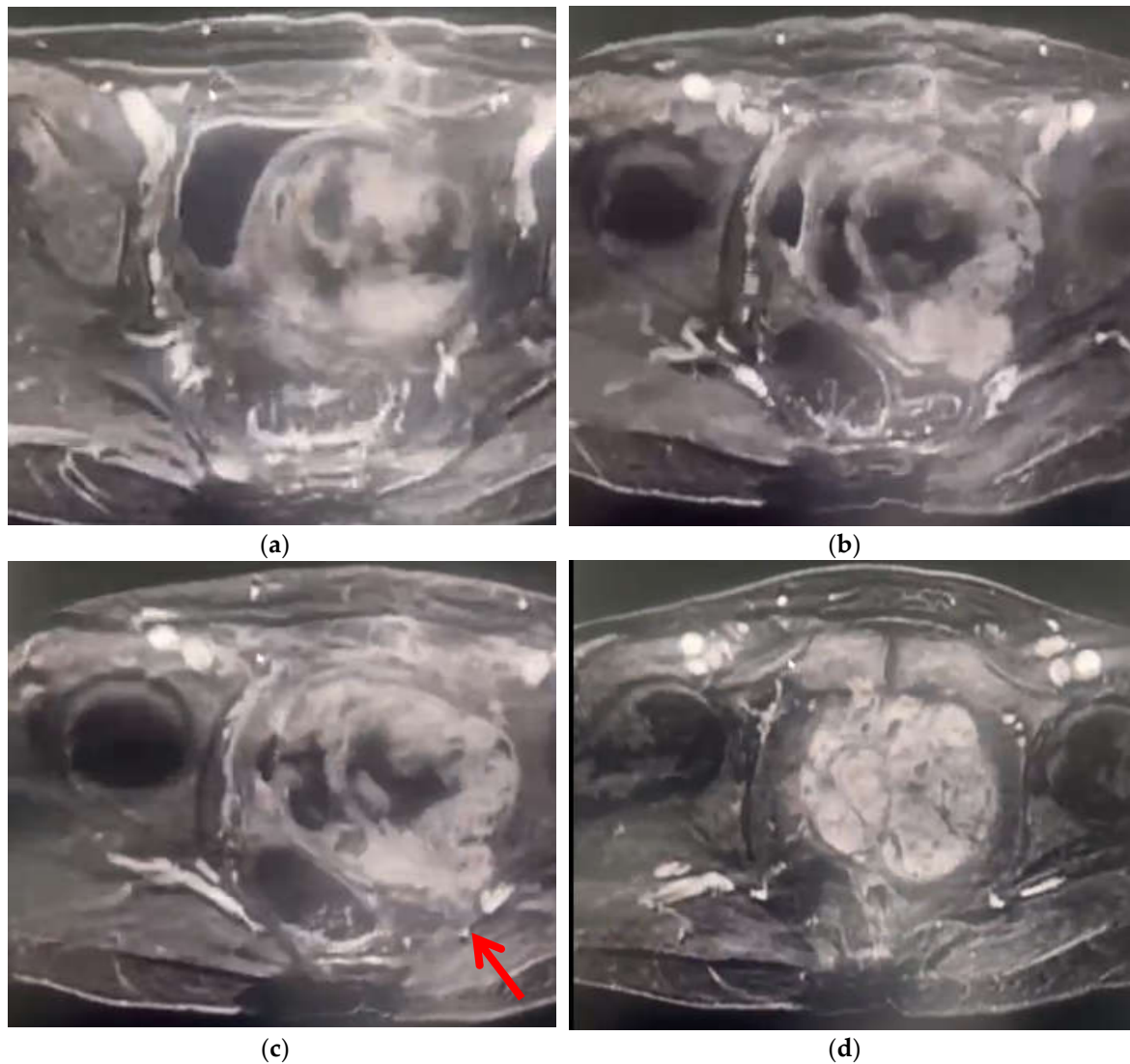


Figure (4): Post contrast fat sat T1WIs..

Figure 4. post contrast T1WI fat sat images :A at upper gland, B&C at mid gland and D at lower gland. -RT.side of the gland: marginally enhancing area corresponding to post biopsy old hermatoma. LT.side of the gland: Shows large prostatic bi-zonal heterogeneous mass: mainly central zone , moderately enhancing, showing areas of no enhancement corresponding to cystic necrosis. Extension of the mass to the LT. posterolateral part of the peripheral zone ,prostatic capsule, periprostatic fat ,mesorectal fascia & postero- lateral pelvis wall , no rectal wall invasion arrow at C image.

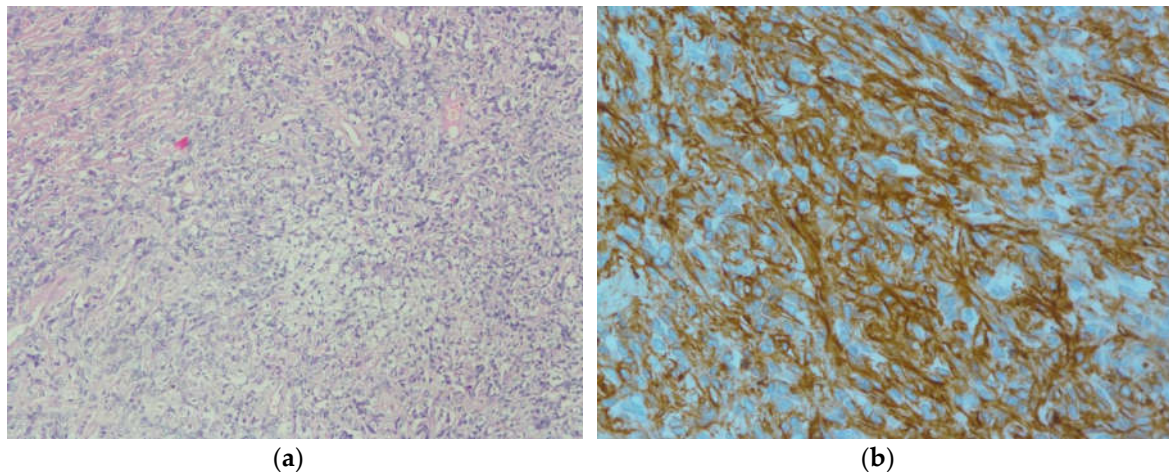


Figure 5. Histopathology of the tumor: Hypercellular tumor with storiform pattern. B: The tumor cells are positive for CD34. ((solid hyper-cellular tumor with infiltrative margins composed of spindle to oval cells with mild to moderate nuclear atypia. Foci of necrosis and mitotic figures noted. The tumor cells are positive for CD34 and progesterone receptors while negative for PSA, SMA, Desmin, h-Caldesmon, ER, S-100, CK, AE1/AE3, EMA, CD31, Chromogranin, Synaptophysin, CD56, CD117, LCA and CD10 immunosatins)).

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Informed Consent Statement: Written informed consent has been obtained from the patient to publish this paper.

Conflicts of Interest: The authors declare no conflict of interest.

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