

Muscle Metastasis from Prostate Cancer

Andrianah Emmylou Gabrielle Prisca, Rajaonarison Ny Ony Narindra Lova Hasina, Razafindraibe Kanto Adrienne, Ahmad Ahmad

Department of Medical Imaging, University Hospital Center of Antananarivo, Joseph Ravoahangy Andrianavalona, Antananarivo, Madagascar

Correspondence: Dr. Andrianah Emmylou Gabrielle Prisca, Department of Medical Imaging, University Hospital Center of Antananarivo, Joseph Ravoahangy Andrianavalona, BP: 4150 Antananarivo 101, Madagascar. E-mail: andrianahgabiemylou@gmail.com

ABSTRACT

We report an exceptional case of prostate cancer metastasis sites discovered on ultrasound, of the abdominal muscle, subcutaneous and liver.

Key words: Atypical metastases; liver; muscle; prostate; ultrasound

Introduction

The secondary locations in the abdominal muscles, subcutaneous, and liver are considered exceptional and atypical extraprostatic extensions,^[1] even the postoperative complications of these cancers.^[2] We report a case of a 64-year-old man who developed nodular metastases in muscles, subcutaneous, and liver after radical prostatectomy by laparotomy for prostatic adenocarcinoma, discovered by abdominal ultrasound.

The interest of this publication is to report this rare case and to show the place of ultrasonography in the diagnosis and the monitoring within the framework of a cancer extension assessment.

Case Report

A 64-year-old man was referred to medical imaging and radio diagnosis for abdomino-pelvic ultrasound because of an abdominal, colicky pain evolving for 2 months with neither transit disorder nor fever.

In his personal surgical histories, he underwent a radical prostatectomy by laparotomy 6 months ago, the tissue sample

pathologic result was adenocarcinoma of the prostate, for which he received no adjuvant treatment but surgery.

On physical examination at admission, the patient maintained a good condition. The abdomen was flexible, and we could feel well-limited, fixed, painless nodules on the laparotomy and drainage scars in the region of the right iliac pit. The digital rectal examination gave a shielding feeling of the rectal area, with difficulty palpating the prostatic area. Bilateral inguinal lymph node chains presented lymphadenopathies.

Abdomino-pelvic ultrasonography helped objectify an ill-defined, heterogeneous, hypoechoic mass predominant in the prostate tissue [Figure 1], probably related to a local recurrence; a bladder infiltration resulting in an irregular thickening of the wall, highly vascularized, associated with a mass suspended on its front, heterogeneous, and hyperechoic, with central vascularization in Doppler sonography. There was no obstacle syndrome of the upstream urinary tract. We found on ultrasound many lymphadenopathies locations; on the ileo-odturator chains, bilateral near kidneys and liver hilum. Also, on the segment VII of the liver parenchyma [Figure 2] seats a juxta-centimetric, hyperechoic nodule. There was no ascites. On the laparotomy and drainage scar, on the right

This is an open access article distributed under the terms of the Creative Commons Attribution-NonCommercial-ShareAlike 3.0 License, which allows others to remix, tweak, and build upon the work non-commercially, as long as the author is credited and the new creations are licensed under the identical terms.

For reprints contact: reprints@medknow.com

How to cite this article: Prisca AE, Hasina RN, Adrienne RK, Ahmad A. Muscle metastasis from prostate cancer. West Afr J Radiol 2017;24:90-2.

Access this article online

Quick Response Code:



Website:

www.wajradiology.org

DOI:

10.4103/1115-3474.192759

iliac fossa we have observed two subcutaneous nodules, more and less limited, centimetric, heterogeneous, hyperechoic and a big mass, enough limited, had an identical echostructure, developed on the muscle rectus right [Figure 3], presented a central vascular signal in the Doppler sonography associated with a disorganization of muscular fibres.

The prostate-specific antigen (PSA) test could not be carried out due to the lack of means of the patient. However, 3 weeks later, after his ultrasound exam, the patient came back to our service and made the PSA test, which was increased. In fact the first result was 1123 ng/L and the second result already increase and was 1800ng/L after 3 months.

The biopsy of the nodule on the right rectus was made with an ultrasound guidance. The anatomopathology examination with an immunohistochemical study revealed a nodal metastasis of an adenocarcinoma of the prostate. The patient benefited six cycles of chemotherapy with an association of estramustine and vinblastine.

Discussion

In our case, the diagnosis of local recurrence is performed by ultrasound as it has observed the presence of a heterogeneous mass contained within the prostate, associated with an increased PSA test. Rouvière presented a biological definition of local recurrence after treatment^[3] as a rise in PSA rate; however, the imaging such as ultrasound, Doppler sonography, and magnetic resonance imaging can locate recurrence and suggest biopsy.^[3] It is a major postoperative complication, and ultrasound is ideal for visualizing the operative area.^[4] A high incidence of the local recurrence was noticed in 20–40% of the patients according to this series. These later distinguish two types of recurrences: biological and clinical.^[5]

Our case reports ileo-obturator lymphadenopathies until pararenal and hepatic hilum chains. Ileo-obturator is the first area of prostate cancer metastasis.^[1,4]

Our case shows a parietal metastasis developed on the right rectus abdomen muscle and in the subcutaneous areas on the scars of laparotomy and drainage, and the biopsy by ultrasonography confirmed the metastasis in this anatomopathology study. Döbröne^[6] was the first to describe an abdominal wall metastasis of prostate cancer. Larousse reported a case of a 52-year-old man who had an orifice metastasis after radical prostatectomy by laparoscopy; abdominal computed tomography scan diagnosed an abdominal intramuscular mass.^[2] In his review, Mueller established an incidence of 0.36% of the subcutaneous metastases.^[7] The mechanisms proposed by the authors of these metastases are related to an altered general condition of patients,^[2] a dissemination by contamination of the instruments during interventions on colon, gynecological, gallbladder, and pancreatic cancers.^[2,8-10] Hepatic metastases are rare and revealed by portal

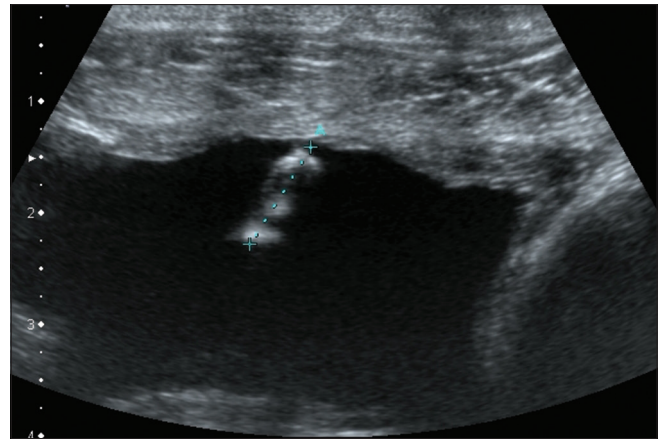


Figure 1: Tissue mass suspended from the anterior bladder wall, vascularized on Colour Doppler, associated with thickening of the bladder wall in keeping with infiltration

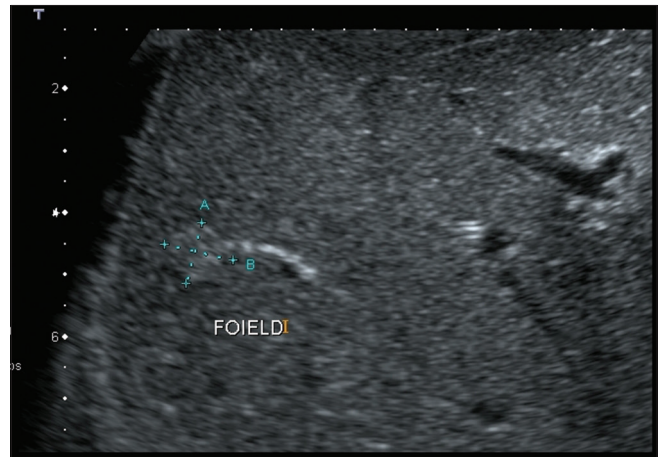


Figure 2: Hyperechoic heterogeneous nodule, oval and well margined, located in segment VII of the liver

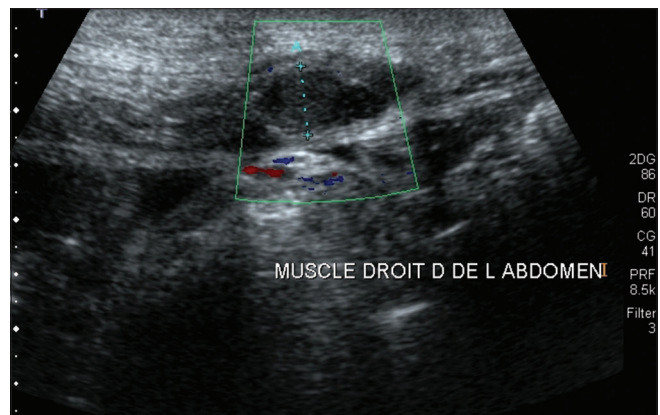


Figure 3: Heterogeneous hypoechoic, poorly limited mass within the Rectus abdominis with surrounding fiber disorganization

hypertension and fulminant hepatic failure.^[11] Long and Husband in their study described that three patients out of 508 developed a hepatic metastasis, as a 3 cm mass seen with the abdominal computed tomography.^[6]

Metastasis on the urinary tract is rare,^[1] and only fifty cases were published according to Yonneau *et al.*,^[4] like Jung *et al.*, which is revealed by upstream obstacle syndrome such as hydronephrosis.^[5] In our case, there is no dilatation of the excretory cavity of the urinary tract, but there is an infiltration of the bladder wall and an anteriorly suspended mass.

The significant recurrence of these parietal masses and intra-abdomino-pelvic lymphadenopathies observed after chemotherapy ultrasound monitoring affirms the diagnosis. In Larousse's case, the computed tomography made it possible to diagnose a secondary intramuscular location of the prostatic mucinous adenocarcinoma.^[2]

Conclusion

Muscle, subcutaneous, and liver metastasis are atypical secondary locations of prostatic adenocarcinoma. Moreover, they are rare.

The dissemination by instruments would be the mechanism met, like in other cancers.

Imaging ultrasound may help in the diagnosis of topographic of recurrences and metastases of prostatic adenocarcinoma and can be completed by other imaging techniques.

Financial support and sponsorship

Nil.

Conflicts of interest

There are no conflicts of interest.

References

1. Lebre T, Méjean A. Rare locations of metastases from prostate cancer. *Progress in Urology* 2008;Suppl. 7:S357-S64. [Elsevier Masson].
2. Viville C. Local recurrence after radical prostatectomy for prostatic cancer. *Ann Urol (Paris)* 2000;34:53-7.
3. Bruneton JN, Stines J, Padonavi B, Drouillard J, Roy C. *Imagerie et surveillance post-thérapeutique en oncologie*. Elsevier: Masson; 2000. p. 353-64.
4. Teh BS, Chou CC, Schwartz MR, Mai WY, Carpenter LS, Butler EB. Perineal prostatic cancer seeding following radioactive seed brachytherapy. *J Urol* 2001;166:212.
5. Long MA, Husband JE. Features of unusual metastases from prostate cancer. *Br J Radiol* 1999;72:933-41.
6. Boyiadzis M, Nam M, Dahut W. Fulminant hepatic failure secondary to metastatic prostate cancer. *Urol Int* 2005;74:185-7.
7. Yonneau L, Lebre T, Hervé JM, Barré P, Lugagne PM, Botto H. Isolated ureteral metastasis of prostatic adenocarcinoma. Apropos of a case. *Prog Urol* 1999;9:118-21.
8. Jung JY, Kim HK, Roh YT, Choi DY, Yoo TK, Kim EK. Long-standing ureteral metastasis secondary to adenocarcinoma of the prostate after bilateral orchiectomy. *J Urol* 2000;164:1298-9.
9. Huang E, Teh BS, Mody DR, Carpenter LS, Butler EB. Prostate adenocarcinoma presenting with inguinal lymphadenopathy. *Urology* 2003;61:463.
10. Liu L, Devine P, Einhorn E, Kao GD. Incidental finding of an isolated prostate cancer metastasis in an inguinal hernial sac. *J Urol* 2000;164:457-8.
11. Szentgyörgyi E. Perineal prostatic cancer seeding following Urocut needle biopsy. *Int Urol Nephrol* 1996;28:87-90.