MRI FINDINGS IN A CASE OF PRIAPISM

Moon Kanjilal, Sudipta Saha, Surajit Das, Samiran Samanta

Department of Radiology, Institute of Post-Graduate Medical Education and Research and Seth Sukhlal Karnani Memorial (IPGME&R and SSKM) Hospital, Kolkata, West Bengal, India

PJR July - September 2015; 25(3): 124-126

ABSTRACT

Painful penile erection for more than four hours is known as priapism. Though high resolution PDUS is the initial investigation of choice, MRI provides excellent information regarding cause and extent of penile infarction. MRI further helps to decide possible treatment option in a neglected case of prolonged priapism. We did MRI scan with contrast in a case of ischaemic priapism and the degree of cavernosal infarction was beautifully demonstrated. The case is being presented here.

Introduction

We evaluated a case of untreated ischemic priapism with MRI (3 TESLA) and got excellent information with clarity. MRI played a major role for management of this patient without further delay.

Case Presentation

A 26 yrs old patient presented with priapism who underwent MR (after initial penile Doppler) and came out with a diagnosis of idiopathic ischaemic priapism with extensive cavernosal infarction, penile prosthesis implantation was the only possible management option for this patient. Areas of necrosis within corpora cavernosa appeared hypointense in T2WI (Fig. 1 and 2) and as hyperintense foci in T1WI (Fig. 3). On post contrast T1FS (Fig. 4) axial and sagittal images (Fig. 5) the areas of necrosis corresponded to the areas of non-enhancing cavernosa.

Discussion

Prolonged painful erection of penis is defined as priapism. It can be of ischaemic/low flow/veno-occlusive variety or non ischaemic/high flow/arterial variety. Idiopathic (most common), sickle cell disease, drug abuse (e.g. cocaine), neurological disorder, penile metastasis can all lead to ischaemic priapism.
Ischaemic priapism is much more common than non ischaemic type and is an emergency condition. Delay in treatment for more than 24 hours leads to persistent erectile dysfunction. Radiologist plays a major role in management of priapism by determining the type,

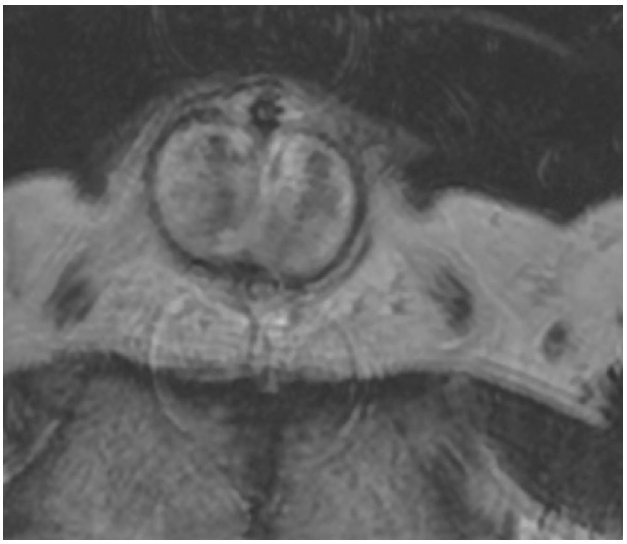

Figure 1: AXIAL T2 (TR-7120,TE-97.9): showing hypointense areas within corpora cavernosa(corresponding to the areas of necrosis)

Correspondence : Dr. Moon Kanjilal
Department of Radiology, (IPGME&R and SSKM) Hospital, Kolkata 700020,
West Bengal, India.
Mob no.-9433153998
Email: kanjilalmoon@gmail.com

Submitted 6 June 2015, Accepted 22 June 2015

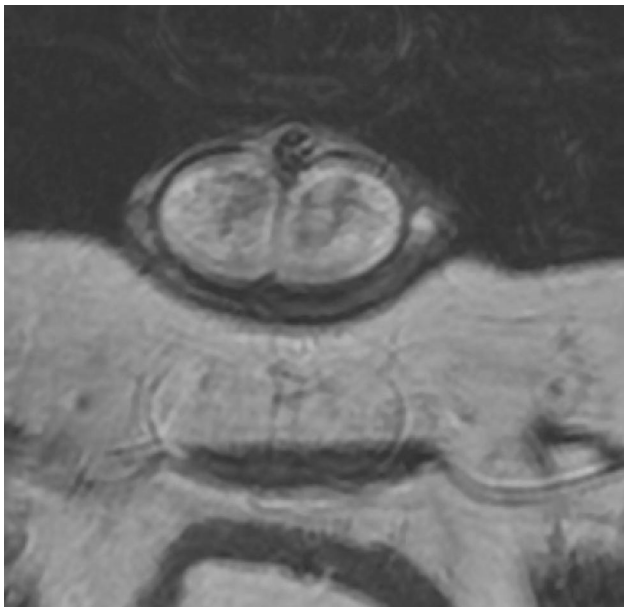

Figure 2: AXIAL T2 showing hypointense areas within both cavernosa

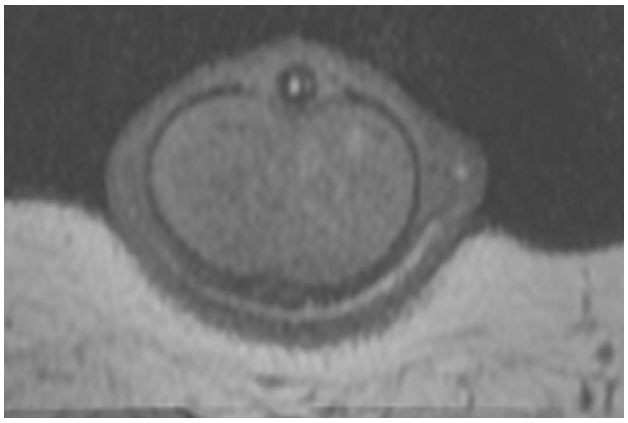

Figure 3: AXIAL T1 IMAGE (TR-500,TE-12.1,FOV-18*18) : showing few foci of hyperintensity within corpora cavernosa.

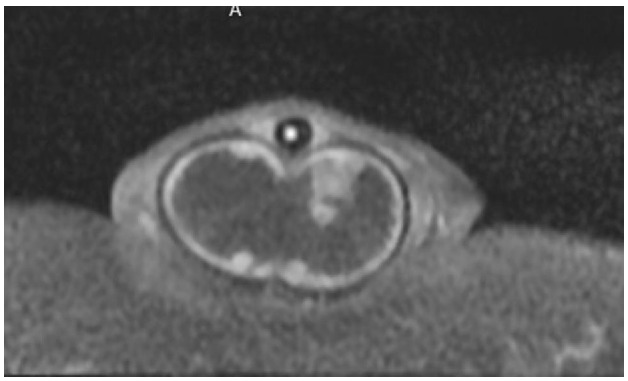

Figure 4: AXIAL T1 FS WITH CONTRAST (TR-500,TE-12.1) showing non enhancing areas within corpora cavernosa (s/o necrosis)

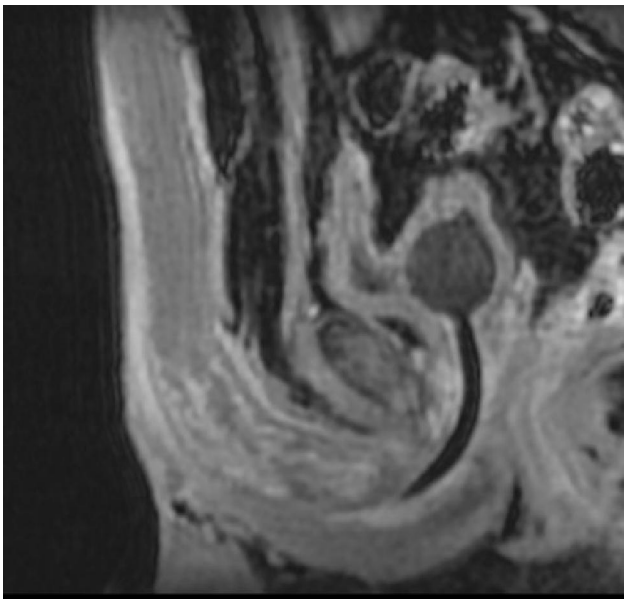

Figure 5: SAGITTAL T1 FS WITH CONTRAST showing patchy enhancement within root of penis

cause, extent of penile infarction, and its sequel. PDUS, selective arteriography and MRI all can provide valuable information regarding this.

There are three indications to do MRI in a case of priapism; (1) To know the extent of cavernosal infarction and fibrosis in low flow priapism; (2) To exclude penile metastasis as a cause of low flow priapism(also known as malignant priapism); (3) to evaluate traumatic arteriovenous fistula (AVF) /high flow priapism. Surface coil is required to do the study and the penis has to be secured to the anterior abdominal wall.Thin-section, high-resolution 3T MR images are needed for better assessment. T2 low signal intensity and T1 high signal intensity noted if there is cavernosal thrombosis. On T2 weighted axial image thrombosed cavernosa becomes enlarged and show low signal intensity as compared to the normal cavernosa. T1FS pre and post contrast (IV Gadolinium) images are essential to demonstrate fibrosis of cavernosa. Less than 50 percent enhancement in post contrast study suggests significant cavernosal necrosis and need for penile prosthesis implantation. Flow void is noted is case of AVF.

Drawback of MRI; 1. Poor resolution fails to detect small vessel disease. 2. Expensive than conventional PDUS.

Treatment protocol; 1. In ischaemic variety emergency aspiration can prevent thrombosis. Shunting, penile prosthesis implantation is required in delayed cases. 2. In non-ischaemic variety-embolization is the treatment of choice.

Conclusion

Though PDUS is the initial investigation of choice,MRI can be of great value for follow up evaluation and determining further treatment option in a case of priapism.

Conflict of Interest: We have no financial or personal interest in writing this report.

References

1. Montague DK, Jarow J, Broderick GA, Dmochowski RR,Heaton JP, Lue TF, et al. American Urological Association guideline on the management of priapism. J Urol 2003; **170:** 1318-24.

2. Pautler SE, Brock GB. Priapism.From Priapus to the present time.Urol Clin North Am 2001; **28:** 391-403.

3. Yuan J, Desouza R, Westney OL, Wang R. Insights of priapism mechanism and rationale treatment for recurrent priapism. Asian J Androl 2008; **10:** 88-101.

4. Nolan VG, Wyszynski DF, Farrer LA, Steinberg MH.Hemolysis-associated priapism in sickle cell disease. Blood 2005; **106:** 3264-7.

5. Pretorius ES, Siegelman ES, Ramchandani P, Banner MP. MR imaging of the penis. Radiographics 2001; **21:** 283-299.

6. Pretorius ES, Siegelman ES, Ramchandani P, Banner MP. MR imaging of the penis. Radiographics 2001; 21: 283-98.