

1 **Scrotal abscess mimicking as infarcted**
2 **testicular abscess in a patient with**
3 **maldescended testis**

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10 **ABSTRACT**
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Scrotal abscess is a common scrotal condition which rarely affects the testis and definitive treatment is by surgical drainage. Testicular involvement by a scrotal abscess can usually be diagnosed with ultrasound and it will usually require an orchidectomy. We present a first reported case of a scrotal abscess, mimicking an infarcted testicular abscess on ultrasound in a patient with maldescended testis. This unusual case highlights the importance of an accurate history and physical examination as imaging may not be reliable in a case of maldescended testis.

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13 *Keywords: Scrotal abscess, testicular abscess, maldescended testis*
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15 **1. INTRODUCTION**
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17 Scrotal abscess is a common scrotal condition which rarely affects the testis and
18 definitive treatment is by surgical drainage. Testicular involvement by a scrotal
19 abscess can usually be diagnosed with ultrasound and it will usually require an
20 orchidectomy. We present a first reported case of a scrotal abscess, mimicking an
21 infarcted testicular abscess on ultrasound in a patient with maldescended testis, and
22 this unusual case highlights the importance of an accurate history and physical
23 examination, as imaging may be unreliable in a case of maldescended testis.
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25 **2. PRESENTATION OF CASE**
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27 This is a 67 years-old Indian male, with a significant past medical history of
28 hypertension, hyperlipidemia, diabetes mellitus, ischemic heart disease and end
29 stage renal failure on hemo-dialysis, who first presented with a left scrotal swelling
30 of 1 week's duration. The swelling was increasing in size and was associated with
31 pain and erythema. On physical examination, there was a 4cm swelling over the
32 inferior aspect of the left hemi-scrotum which was fluctuant and tender, and a
33 separate left testis was not clinically palpable. The right testis was palpable and
34 normal. In view of the clinical concern of possible involvement of the left testis, an
35 ultrasound examination of the scrotum was performed. Ultrasound examination
36 noted a 4 cm heterogenous mass within the left scrotal sac, which was reported to
37 represent the left testis and epididymis, but no vascular flow was
38 demonstrated.(Figures 1,2,3) This was deemed to be suspicious for left testicular
39 infarction complicated by necrosis or hemorrhage.

40 On further questioning, the patient reported that he noticed his left testis was smaller
41 than his right. However, the patient was not specifically asked if his testis was
42 normally descended in the scrotal sac, and the patient did not volunteer the
43 information that his left testis was not in the scrotum.

44 The patient was planned for saucerisation of the scrotal abscess with a view for left
45 orchidectomy in view of the physical and ultrasonographic findings. During surgical
46 exploration via a midline scrotal incision, the entire abscess was saucerised but no
47 obvious testicular tissue or spermatic cord was identified. On further exploration,
48 there was an atrophic, maldescended testis located high up in the left scrotal sac,
49 around the sub-inguinal region. The left maldescended testis appeared atrophic but
50 was otherwise not involved by the abscess and was not removed. The patient's
51 post-operative recovery was uneventful, and he recovered well after the surgery.
52 Post-operative examination in the clinic was able to vaguely demonstrate an
53 atrophic testis in the sub-inguinal region, which was not noted in the pre-operative
54 assessment. The histology returned as inflamed epidermal inclusion cyst with
55 evidence of recent rupture.

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58 3. DISCUSSION

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60 Scrotal abscesses are common scrotal conditions that are usually drained
61 surgically. Pre-operatively, it is important to exclude testicular involvement as this
62 may necessitate an orchidectomy, which will be an important consideration in the
63 younger age group. Testicular abscess or testicular involvement from a scrotal
64 abscess is rarely seen and this can usually be easily diagnosed with ultrasound
65 examination of the testes. [1,2] Severe epididymo-orchitis have been reported to
66 result in abscess formation and even testicular necrosis, and this will necessitate an
67 orchidectomy.

68 The diagnosis of a scrotal abscess is usually straight forward and usually made
69 clinically, with the occasional need for further imaging in suspected cases of
70 testicular involvement or concern of a neoplasm. [3,4,5] Rarely a scrotal abscess
71 may mimic other conditions, and there have been a few case reports of scrotal
72 abscess mimicking as intratesticular liposarcoma, or testicular torsion in the
73 literature, but to our knowledge, this is the first reported case of a scrotal abscess
74 masquerading as a testicular abscess in a patient with a maldescended testis.
75 [6,7,8,9] The use of ultrasonography in assessment of the undescended testis has
76 been studied and has in general found to be inferior as compared to surgical
77 exploration.

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79 We report an interesting case of a patient with a maldescended atrophic left testis
80 presenting with a left scrotal swelling which was initially treated as for an infarcted
81 testicular abscess based on the clinical and imaging findings. Without a clinical
82 history of a maldescended left testis and the inability to reliably palpate the atrophic
83 testis high up in the left scrotal sac, the ultrasound finding of a 4cm heterogenous
84 scrotal mass without vascular flow mimicked the appearance of an infarcted
85 testicular abscess. This resulted in a surgical plan for an orchidectomy which would
86 have been unnecessary as the testis was not involved at all. While a concerted
87 effort was made in the history taking regarding his left testis, the patient was unable
88 to inform that he in fact had a maldescended and atrophic left testis. It is important

89 to highlight that while the initial diagnosis was incorrect, the management was
90 appropriate as this patient clinically had an abscess that required surgical drainage,
91 and fortunately we were able to identify the maldescended testis intra-operatively. If
92 the patient had been able to give an accurate history of an undescended left testis,
93 or if physical examination was able to identify the maldescended testis in the upper
94 scrotum, the patient might have been able to proceed with the operation directly,
95 without the need for further imaging studies. While this interesting case did not
96 impact on the patient's eventual surgical management and outcome, this case does
97 highlight the importance of accurate history taking and thorough physical
98 examination. It also serves to remind clinicians the importance of clinical correlation
99 with respect to imaging findings.

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102 **4. CONCLUSION**

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104 The ultrasonographic appearance of a scrotal abscess may be deceiving as it may
105 mimic the appearance of a testis, as highlighted in this case where the testis is
106 maldescended and not in the **expected location** within the scrotal sac. **This unusual**
107 **case illustrates the importance** of a good history and physical examination, and
108 imaging alone **without proper clinical correlation may not** reliably give the correct
109 diagnosis and may result in inappropriate decision making and management.

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111 **ACKNOWLEDGEMENTS**

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COMPETING INTERESTS

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AUTHORS' CONTRIBUTIONS

Darren Goh conceptualized the study and prepared the draft and did literature search and prepared the final manuscript.

All authors read and approved the final manuscript.

CONSENT

All authors declare that written informed consent was obtained from the patient (or other approved parties) for publication of this case report and accompanying images.

ETHICAL APPROVAL

Not applicable.

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FIGURES



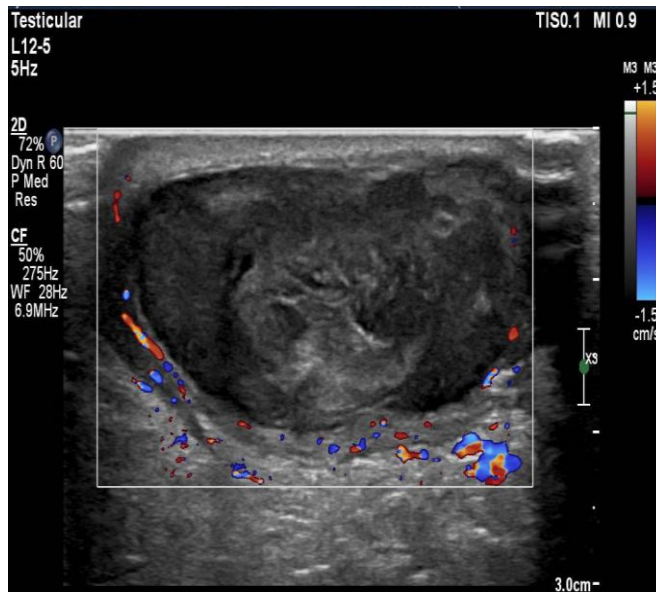
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Figure 1: Longitudinal ultrasound image showing the heterogenous 'left testis'



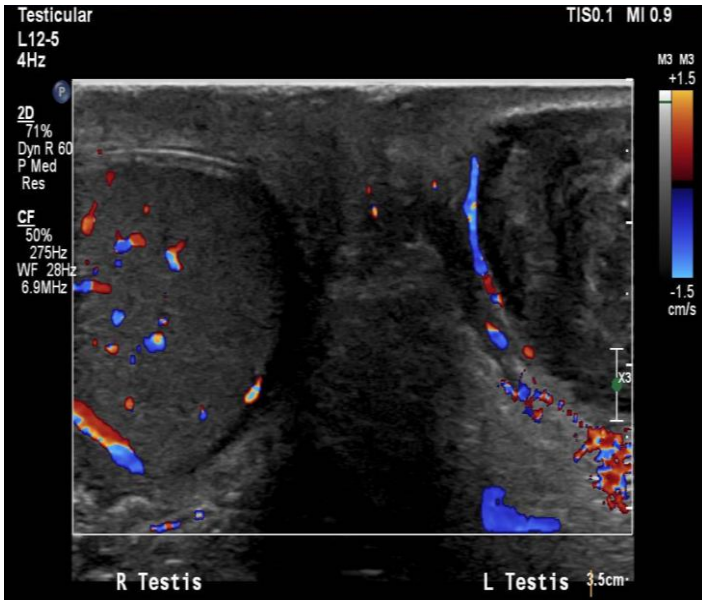
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Figure 2: Doppler ultrasound image showing the absence of vascular flow within the 'left testis'



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Figure 3: Side by side comparison of the right and 'left testis'