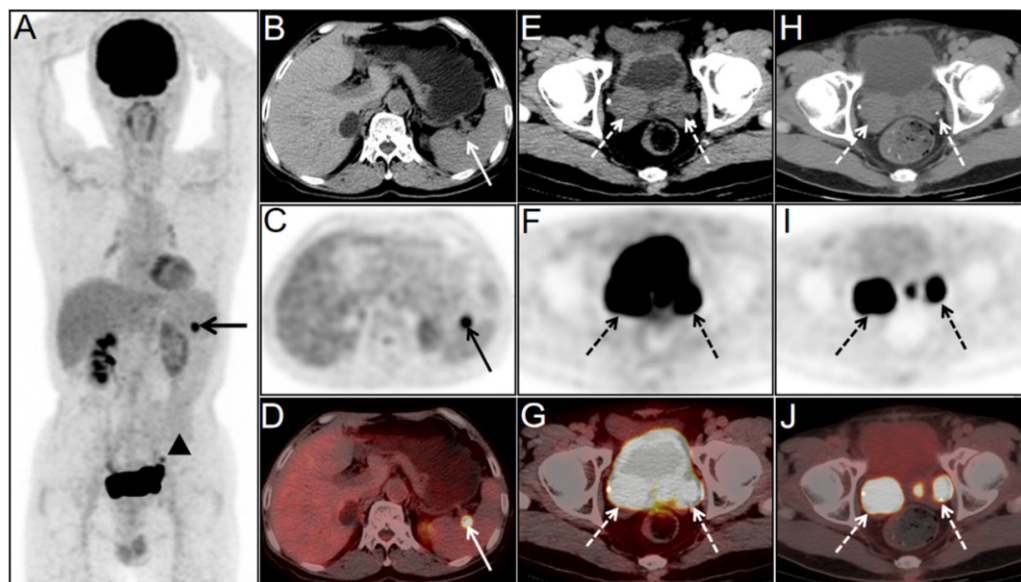


# Primary diffuse large B-cell lymphoma of seminal vesicles detected by $^{18}\text{F}$ -FDG PET/CT

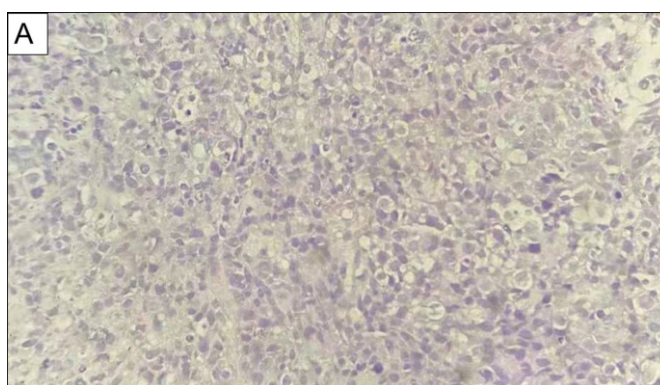
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**Figure 1.** A 77-year-old man was admitted to our hospital for abdominal distension and pain for over a month. Abdominal ultrasound and computed tomography (CT) suggested significant enlargement of the bilateral seminal vesicles. A malignancy was suspected and the patient subsequently entered our department to undergo Fluorine-18-fluorodeoxyglucose positron emission tomography/CT ( $^{18}\text{F}$ -FDG PET/CT). The maximum intensity projection image (A) revealed increased  $^{18}\text{F}$ -FDG uptake in the spleen (arrow) and left lower abdomen (triangle). Axial images of the upper abdomen area by CT (B), PET (C), and PET/CT fusion (D) showed an  $^{18}\text{F}$ -FDG-avid focus in the spleen (SUVmax 7.8). Axial images of the pelvic area by CT (E), PET (F), and PET/CT fusion (G) demonstrated significant enlargement of the bilateral seminal vesicles with intense  $^{18}\text{F}$ -FDG uptake (SUVmax 20.6). In order to eliminate the influence of urine activity, we performed delayed imaging after an hour. Axial images of CT (H), PET (I), and PET/CT fusion (J) showed that the bilateral seminal vesicles (dash arrow) had a significantly higher  $^{18}\text{F}$ -FDG uptake than before (SUVmax 32.3). The results of  $^{18}\text{F}$ -FDG PET/CT were highly suggestive of malignancy.



**Figure 2.** Pathological analysis (A) revealed a large number of diffusely distributed lymphoma cells. Immunohistochemistry analysis was positive for Vimentin, LCA, CD5 and CD20, and negative for PSA, ERG, CK5/6, P40, CD3, CD10 and CD30. A final diagnosis of diffuse large b-cell lymphoma was made. The patient then underwent the R-CHOP therapy. However, the patient died five months later due to the worsening of the disease. Primary malignancies of the seminal vesicles are rare [1], and primary lymphoma of seminal vesicles is even rare. Only a few cases of primary lymphoma of the seminal vesicle have been previously reported, and there is no standard treatment protocol for this disease [2-4]. Early diagnosis of seminal vesicle lymphoma may be difficult because of the lack of specific clinical symptoms [2], which should be differentiated from metastases [5], seminal vesicle adenocarcinoma [6], cystosarcoma phyllodes [7], Burkitt Lymphoma [8], etc. In this case, an  $^{18}\text{F}$ -FDG-avid foci in the spleen was found through  $^{18}\text{F}$ -FDG PET/CT, but was not shown on CT. At the same time, we eliminated the interference of urine activity through PET/CT delayed imaging, and obtained images with a higher diagnostic value. In conclusion, we reported an extremely rare case of primary seminal vesicle lymphoma on  $^{18}\text{F}$ -FDG PET/CT, and delayed imaging with a higher value for diagnosis. This case suggests that diffuse large B-cell lymphoma should be included in the differential diagnosis of a seminal vesicle mass with intense  $^{18}\text{F}$ -FDG uptake. Further, delayed PET/CT imaging may be helpful in the diagnosis of seminal vesicle lymphoma. This case also suggests that PET/CT delayed imaging may have potential value in the diagnosis of seminal vesicle malignancy.

### Author contributions

Weidong Gong and Xiao Yang wrote this manuscript and they contributed equally to this work. Junhao Wu and Lei Ou collected medical history information and images. Chunyin Zhang revised the manuscript finally and provided some critical suggestions. All authors listed have read and approved this article. No conflict of interest in the submission of this manuscript.

*The authors declare that they have no conflicts of interest.*

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