

# Benign prostatic hyperplasia



Digital Pathology Collection

Case 12 2009

Ref.s IX:iv:11, IX:iv:15



# Case 1 Clinical data

- The patient was a 68 year old man who was admitted to hospital for cardiac failure.
- He developed acute urinary retention and had to be catheterised.
- He died of complications of vascular insufficiency.

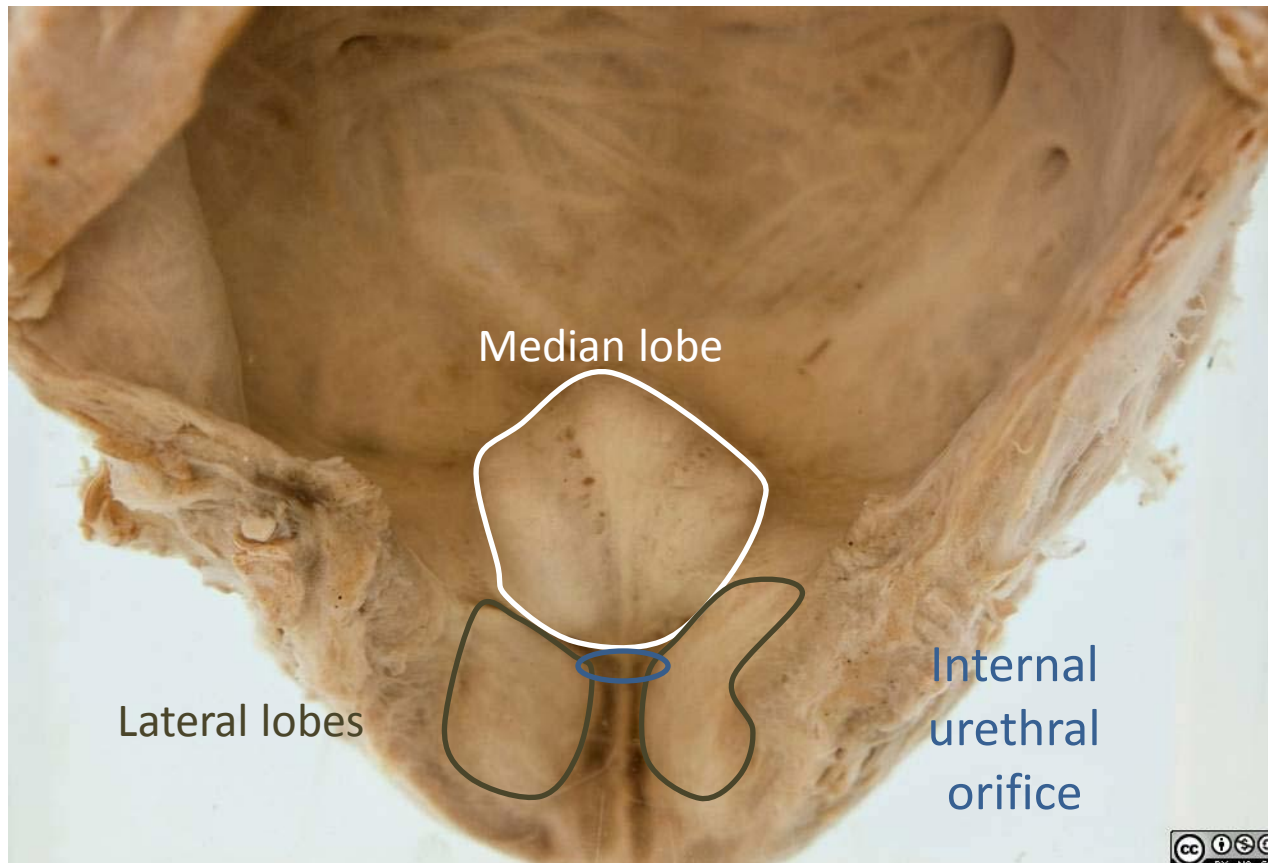


# Pathology

- The bladder and prostate gland have been opened anteriorly.



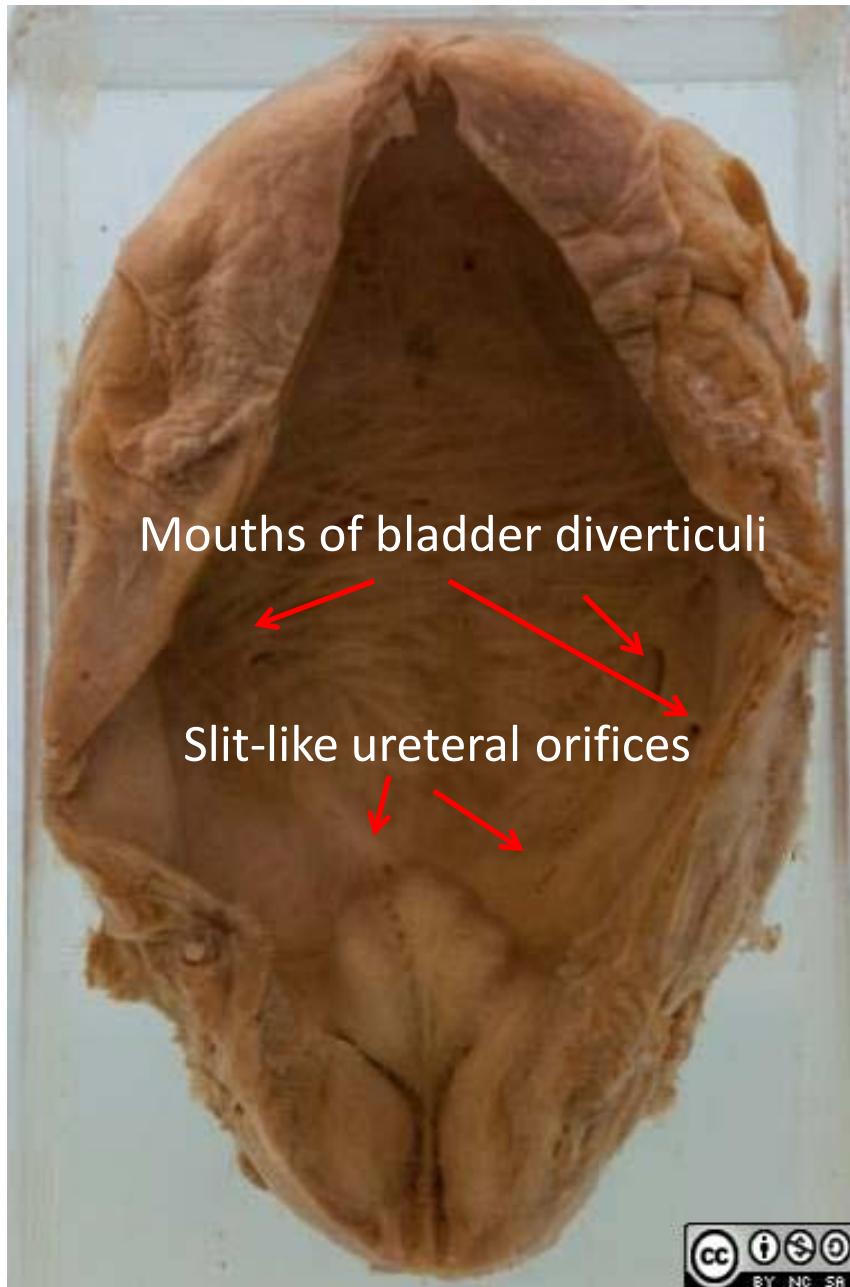
- The median lobe of prostate is enlarged and nodular, and intrudes into the bladder floor.
- It obstructs the internal urethral opening, possibly with a ball-valve effect.



**This patient's bladder shows some of the secondary effects of urinary outflow obstruction**

1. Trabeculations (ridging) are due to hypertrophy of the detrusor muscle. The inner surface of a normal bladder is quite smooth.
2. Permanent distension. The normal adult bladder is elastic with a capacity of 300 – 500ml.





3. Diverticuli are outpouchings of the bladder wall.
4. At autopsy the patient was also found to have bilateral hydroureter and hydronephrosis (not shown).

# Anatomical note

- The trigone of the bladder is a triangular region of the inner bladder defined by the ureteral orifices and the internal urethral orifice.





## Case 2 Clinical data

- This is the prostate of a 79 year old man
- He died of a ruptured aortic aneurysm and the abnormal prostate was an incidental finding at autopsy.





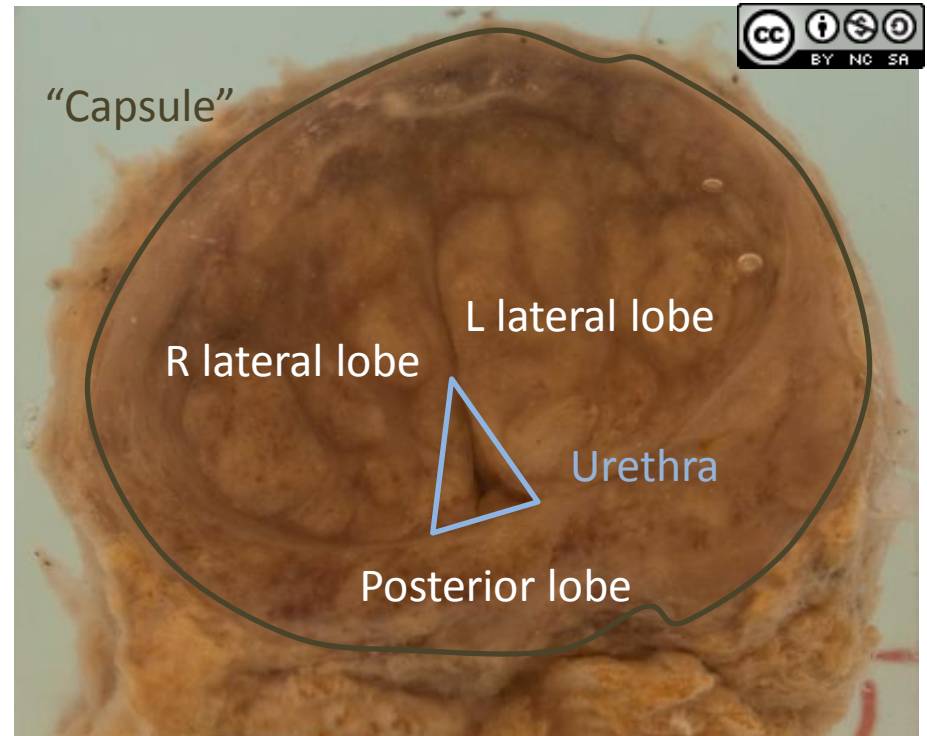


6 cm

- The prostate is enlarged and coarsely nodular. (The normal prostate is the size of a walnut and weighs about 20g.)



- This is a transverse section through the prostate.
- In this case it is predominantly the two lateral lobes that are hyperplastic.



# Terminology

- The bladder shows **hypertrophy**
- The prostate shows **hyperplasia**  
What is the difference?
- What sort of organs tend to hypertrophy?
- What sort of organs lean to hyperplasia?
- Can you define *hypoplasia* or *dysplasia* or *metaplasia*, even *aplasia*?
- Similarly, dystrophy or atrophy?
- How would you explain to your patient with benign prostatic hyperplasia (BPH) what is happening in his prostate?



## Case 2 Histology

- The naked-eye appearance of benign prostatic hyperplasia was confirmed by microscopy.
- In addition, small foci of adenocarcinoma were seen.

*Comment on this case:*

BPH is very common in men over 50 years.

The finding of microscopic or latent prostatic carcinoma is very common in men over 70 years.

The two conditions are independent i.e. BPH does not predispose to carcinoma.



- **Benign hyperplasia** involves both the glandular tissue and fibromuscular stroma of the prostate. It tends to occur in the **central, peri-urethral region** of the prostate.
- Prostate cancer is usually **adenocarcinoma**, deriving from glandular tissue. Most arise in the **peripheral subcapsular region** of the prostate, where the main glands are located.



# References and links

- For a review of the diseases of the prostate and prostate histology, go to this excellent on-line tutorial  
<http://library.med.utah.edu/WebPath/TUTORIAL/PROSTATE/PROSTATE.html>





A selection of cases from the Digital Pathology Collection by the

[Department of Clinical Laboratory Sciences](#)

[University of Cape Town](#)

is licensed under a

[Creative Commons Attribution-NonCommercial-ShareAlike 2.5 South Africa Licence](#)

The full Digital Pathology Collection is accessible at

[www.digitalpathology.uct.ac.za](http://www.digitalpathology.uct.ac.za)

If you would like to use an image or other item from our site that is not labelled with the Creative Commons Licence Logo, please contact the [curator](#) for permission.

