Prostate biopsy

- Suspicion of prostate carcinoma
- PSA: 17,9ug/l
- Suspect palpation result of the right prostate
- Known hyperplasia of the prostate
Histology

“I DON'T KNOW WHAT THIS IS, BUT YOU SHOULD SEE HOW FAST IT'S GROWING!”
Malakoplakia
History

• Michaelis and Gutmann first defined malakoplakia in 1902
• In 1903 Hansemann coined the term malakoplakia
• Combination of malakos (soft) and plakos (plaque) in ancient Greek
Definition

• Mass-forming histiocyitic infiltrate with characteristic cytoplasmic inclusions
Ethiology/Pathogenesis

- Recurrent *E. coli* infections of the urinary system
- Other infectious gram-negative bacilli (Klebsiella pneumonia)
- Other less common bacteria such as Rhodococcus equi
- Association between the disease and immunosuppression is reported
Ethiology/Pathogenesis

• Defective phagocytosis of bacterial products by macrophages and monocytes
• Partially digested bacteria accumulate in phagolysosomes of macrophages
• deposition of iron and calcium
Epidemiology

- Wide age range from children to adults
- Peak in 5.-7. decade
- More common in females
Site

- Most common in the genitourinary tract, trigone region of the bladder
- Other sites: colon, stomach, lung, liver, bone, uterus, skin
Presentation

- Bladder irritability and hematuria
- Endoscopic polypoid mass in the bladder

Cystoscopy: Multiple flat or elevated, plaques of the mucosa
Macroscopy

- Yellow or yellow-brown plaques of the mucosa
- May appear nodular or polypoid
- Central umbilication or ulceration in larger nodules
Microscopy

- Histiocytes with granular eosinophilic cytoplasm: Von Hansemann cells
Microscopy

- Michaelis-Guttman bodies: rounded concentric basophilic intracytoplasmic inclusions
Microscopy

• Associated inflammatory infiltrate: Lymphocytes, Plasma cells, Eosinophils
• Abscess formation or granulation tissue
• Variable fibroblastic proliferation or fibrosis
• Overlying urothel may be ulcerated, hyperplastic or metaplastic
Histochemistry

- Von Kossa
- Iron stain
- Pas

- intracytoplasmic inclusions

- Early lesions may be only Pas-positive and Calcium and Iron may be negative
Target-like appearance of Michaelis-Gutmann bodies with periodic acid-Schiff stain
Immunohistochemistry

- CD 68+
- Cytokeratin-
Differential diagnosis
Differential diagnosis

- Poorly differentiated urothelial carcinoma: Pleomorphic cells, cytokeratin+
Differential diagnosis

• Prostatic adenocarcinoma: Luminal formation, cytokeratin, PSA and PSAP+
Differential diagnosis

- Tuberculosis: No intracytoplasmic inclusions, Ziehl-Neelson
Differential diagnosis

• Xanthogranulomatous pyelonephritis: morphologically similar, no intracytoplasmic inclusions, unilateral
Differential diagnosis

- Extranodal Rosai-Dorfman Disease: Histiocytes with emperipolesis
CASE REPORT

Malakoplakia of the prostate diagnosed by elevated PSA level and transrectal prostate biopsy

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Abstract  Malakoplakia is an inflammation which is thought to develop secondary to chronic Escherichia coli infections. Although often seen in the genitourinary tract, it can also be seen in colon, stomach, lung, liver, bone, uterus, and skin. In this case report, we present prostatic malakoplakia diagnosed by elevated prostate-specific antigen level and transrectal prostate biopsy.

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Case report

• 65 years old patient with lower urinary tract symptoms
• Has been catheterized because of urinary retention for 2 months
• PSA: 6.5 ug/l
• Urine examination: Microscopic hematuria and pyuria
• E. coli in the urine culture
• Pathological diagnosis: Malakoplakia of the prostate and cystitis of the bladder
Transrectal ultrasonography:
Hypoechoic peripheral zone lesions
Malakoplakia of the prostate

• Malakoplakia of the prostate was defined for the first time by Carruthers in 1959
Malakoplakia of the prostate

• Involvement of the prostate and bladder often seen together
• Isolated malakoplakia of the prostate is extremely rare
• May simulate carcinoma on digital rectal examination
Malakoplakia of the prostate

• May accompany a tumour
• Reported in diabetic patients with prostate and seminal vesicle abscess
• May be associated with immunosuppression
Differential diagnosis

- Nonspecific granulomatous prostatitis
- Intravesical Bacille Calmette-Guérin (BCG) therapy for bladder carcinoma
- Prostatic carcinoma
Therapy

- Antibiotic therapy
- Open surgical resection or TUR-P performed if conservative treatment is insufficient