

**PS-06-076****Determination of the association between MRI and Gleason patterns: A proof of principle study**M. Downes<sup>\*</sup>, E. Gibson, J. Sykes, A. Ward, T. van der Kwast<sup>\*</sup>University Health Network, Dept. of Pathology, Toronto, ON, Canada

**Objective:** Compare MR images of post-operative radical prostatectomies (rad-p) with Gleason patterns to determine whether MRI-based differentiation of pathological pattern is possible.

**Method:** MR images of post-operative rad-p ( $n=15$ ) were obtained. The rad-p were processed as whole mount specimens with tumours annotated by two pathologists on digital images. Gleason grade 3 was the most prevalent grade and was subdivided into: packed, intermediate and sparse based on gland-to-stroma ratio. Large cribriform (LC), intraductal carcinoma (IDC) and small fused (SC) glands (grade 4 group) were separately annotated but grouped together for statistical analysis. The log MRI signal intensity for each contoured region ( $n=609$ ) was evaluated and pairwise comparisons were performed.

**Results:** See attached image.

**Conclusion:** Packed pattern 3 had significantly lower MRI intensity than the grade 4 group. Sparse pattern 3 had significantly higher MRI intensity than packed pattern. No difference in MRI intensity was noted between sparse 3 and grade 4 groups. This proof of principle study demonstrates a difference in MRI signal between different prostatic adenocarcinoma patterns which may have implications for directed biopsy sampling.

**Results:**

	Estimate	Std. Error	p-value
Packed G3 vs LC/IDC/SC	-0.375	0.087	<0.0001
Sparse G3 vs LC/IDC/SC	-0.050	0.075	0.507
Sparse G3 vs Packed G3	0.325	0.090	0.0003

**PS-06-077****Audit of central histology reporting of penile neoplasia**J. Bilbie<sup>\*</sup>, J. Dormer<sup>\*</sup>Leicester, United Kingdom

**Objective:** NICE recommended the formation of supra-regional networks for the centralised management of patients with penile neoplasia. Histology from local centres is reviewed prior to discussion at supra-regional MDT meetings. The objectives were to: 1) assess compliance of initial reports with the Royal College of Pathologists (RCPATH) National Minimum Dataset (NMD). 2) to assess concordance of initial reports with review reports.

**Method:** Audit of histopathological reports of penile neoplasia referred to Leicester Royal Infirmary over the last 4 years.

**Results:** A total of 134 cases (intraepithelial 63 (47 %), invasive 58 (43 %), benign 9 (7 %), uncertain 4 (3 %)) were reviewed. NMD compliance was highly variable ranging from 15 to 100 % for cases of invasive neoplasia. Reporting of core data items for intraepithelial neoplasia showed similar results. Concordance of initial report with review report was observed in 21(36 %) cases of invasive neoplasia and 52 (83 %) cases of intraepithelial neoplasia. Supra regional review resulted in changes to diagnosis, stage or grade in 22 (16 %) cases.

**Conclusion:** Compliance with RCPATH NMD core data items was sub-optimal. Core data items are often omitted on biopsies because specimens are considered 'diagnostic' although 37 (42 %) were not specified. NMD compliance may not be considered essential in cases that will be reviewed. Template reporting and continuation of supra-regional management is recommended.

**PS-06-078****Morphofunctional features of erythrocytes in oncurological patients**T. Pavlova<sup>\*</sup>, M. Chaplygina, V. Markovskaya, I. Pavlov, D. Bessmertny<sup>\*</sup>Belgorod State University, Dept. of Pathology, Russia

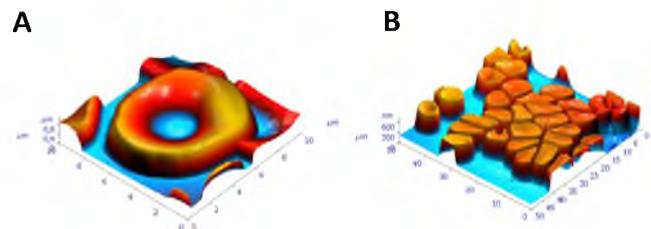
**Objective:** The malignant tumors are one of the most important problems of urology.

**Method:** The blood sampling was conducted before treatment for research of erythrocytes in patients with cancer of kidney (25 patients), bladder, prostate (25) and in healthy patients (10). The samples of tissue of damaged organs were taken during surgery. The samples were studied with help of raster and scanning electron microscopy with elemental analysis, atomic power microscopy and confocal microscopy.

**Results:** The increasing of erythrocytes diameter ( $8.21 \pm 0.01$  um at  $7.38 \pm 0.01$  um in control group) at decreasing of their height was detected in oncurological patients. The decreasing of diameter of central fossa of erythrocyte up to its absence was observed (83 %). The violation of cells microrelief was revealed. The increasing of cells in kind of flattened and bloated disk as well as full and non-full sphere was revealed. The concentration of oxygen was decreased in blood cells.

**Conclusion:** The revealed changes in erythrocytes in oncurological patients are potential diagnostic and prognostic indicators.

**Fig. 1. A. The unchanged erythrocytes in healthy recipients. Atomic-power microscopy. Three-dimensional histogram. B. The changing of form of erythrocytes in patient with prostate cancer. Atomic power microscopy. Three-dimensional histogram:**

**PS-06-079****Metachronous ipsilateral testicular metastasis of a clear cell renal cell carcinoma: A case report**V. Leodara<sup>\*</sup>, C. Karabogias, G. Liadakis, T. Zogka, K. Ntoumas, E. Papalioti<sup>\*</sup>General Hospital Athens, Laboratory of Pathology, Greece

**Objective:** Renal cell carcinoma (RCC) commonly results in metastases to various organs but rarely in testis. Secondary neoplasms of the testis represent only 0.9 % of all testicular tumors. The most common sites of origin excluding leukemia and lymphoma are prostate, stomach, lung, skin (melanoma), colon/rectum, kidney and elsewhere.

**Method:** We report a case of a metachronous ipsilateral testicular metastasis of clear cell RCC in a 62 year old man who underwent left radical nephrectomy for RCC with synchronous osseous metastasis, 2 years ago.

**Results:** Although bilateral involvement may be seen in some cases, the tumors are often unilateral more frequently ipsilateral and solitary, complicating the distinction from primary tumors. Metastases to the testis are most commonly encountered in older patients with known malignancies. Immunohistochemical stains are often beneficial if the clinical history is not contributory.

**Conclusion:** The testes are regarded as "a tumor sanctuary" as it has been hypothesized that tumor cells are not able to grow easily in this environment, because of the relatively low temperature of the scrotum and the presence of the blood-testis barrier formed by the sertoli cells. Possible routes of metastases are: arterial embolism, retrograde venous dissemination, retrograde lymphatic spread, and intraductal spread by means of the vas deferens.