group 1. In the remaining 36 men (54%) blood flow disturbances were diagnosed – group 2.
Results: At six months after RP mean IIEF5 score in group 1 was 16.6; while in group 2 it was seriously lower – 3.3; ($p < 0.000001$) and indicated severe ED in men with impaired blood flow in penis. In group 2 the most frequent type of vascular disorders was venous leakage (18 men – 50%). Arterial and mixed disorders were found in 3 (8%) and 15 (42%) patients respectively. Rigid erection following ICI was attained by 45 men. Between them correct blood flow, arterial, venous and mixed disorders were found in 31 (68.89%), 3 (6.67%), 7 (15.56%) and 4 (8.89%) patients respectively ($p = 0{,}00001$). Tumescence was observed both in 8 men (50%) with venous and mixed disorders. 6 patients presented no reaction following ICI (venous leakage – 3(50%), mixed disorders – 3(50%)). Mean values of Doppler study in men with erection, tumescence and no reaction after ICI were: PSV: 32.5; 26.6; 25.1 cm/s ($p = 0.0012$); EDV: 1.5; 3.7; 12.8 cm/s ($p = 0.000001$); RI: 0.936; 0.877; 0.515 ($p = 0.000001$) respectively.
Conclusions: 1) Impaired blood flow in cavernosal bodies correlates with higher severity of ED 2) Presence of vascular disorders in penis deteriorates the reaction to intracavernosal injection of PGE1 and limits the effectiveness of ED treatment following radical prostatectomy.

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TMPRSS2: ERG gene fusion and epigenetic changes in tumour suppressor genes are associated with clinical markers of poor prognosis in prostate cancer patients

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Introduction and Objectives: Prostate cancer (PCa) is the most prevalent malignancy of males characterized by the high mortality rates. There is a need for new molecular biomarkers with a significant potential to recognize patients with potentially lethal disease who will benefit from more radical treatment. The most common genetic defect so far described in prostate cancer is the androgen-regulated TMPRSS2:ERG gene fusion. In order to investigate whether epigenetic changes in collaboration with the fusion transcript expression may improve characterization of PCa, we analyzed a wide panel of molecular markers, including TMPRSS2:ERG gene fusion, activation of telomerase gene (hTERT) expression and hypermethylation of eight tumour suppressor genes.
Material and Methods: Molecular changes were investigated in clinical PCa samples obtained from radical prostatectomy specimens of 83 previously untreated patients. Reverse transcription (RT) PCR, real-time PCR, and sequencing of cloned product was used for detection and detail analysis of TMPRSS2:ERG gene fusion. hTERT gene expression was analyzed by means of RT-PCR and real-time PCR. Methylation-specific PCR was used for assessment of hypermethylation in promoter regions of tumour suppressor genes GSTP1, RARb, p16, p14, RASSF1, DAPK, MGMT, and ZAC1.
Results: Chimeric TMPRSS2:ERG transcript was detected in 57% (47 of 83) of tumours. Expression of telomerase gene was active in 51% of cases. Among the tumour suppressor genes most frequently hypermethylated in PCa were the GSTP1 (61%) and RARb (68%) genes. TMPRSS2:ERG positive tumours tended to be of higher stage ($p = 0.04$) and higher grade ($p = 0.07$). The activation of the hTERT transcription was also more frequently ($p = 0.01$) observed in patients with TMPRSS2-ERG positive tumours. We found a significant positive correlation between frequency of hypermethylation of the GSTP1 gene and tumour grade ($p = 0.04$), and the frequency of hypermethylation of the RARβ, RASSF1A and GSTP1 genes tend to increase with the increasing stage of tumours. However, no apparent associations between epigenetic changes in analysed tumour suppressor genes and expression of the TMPRSS2:ERG fusion transcript were established in present study.
Conclusions: Preliminary results of our study suggest that detection of the TMPRSS2:ERG gene fusion together with epigenetic biomarkers may be used as novel prognostic indicators for PCa distinguishing patients with unfavourable prognosis.

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How to improve the reconstruction of prostate MRI imaging to transrectal ultrasound imaging?

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Introduction and Objectives: Carcinoma of the prostate is one of the most common male neoplasms. We have been observing tendency to increase both number of CaP cases and deaths caused by this cancer. Strong corelation between age (over fifty) and number of positive diagnosis can be observed. In 2004 prostate cancer took 2nd place in incidentality and 3rd in mortality among all malignant neoplsms. In 2020 20% of polish population will be over 65 years old thats why problem of treating prostate diseases is important and actual..
Aim of the study: The aim of this study is to answer the question: How to improve the reconstruction of prostate MRI imaging to transrectal ultrasound imaging?
Material and Methods: 34 males suspicious of prostate cancer and negative result of sextant core biopsy were qualified to this study.All of them undergone with positive result transrectal MRI-Sp examinaton. All of them had transrectal core biopsy targeted on atypical suspicious findings in MRI-Sp. Transrectal biopsy was performed using ultrasonography B-K Medical-2101 Falcon and core biopsy automat Pro-Mag 2.2L Biopsy System Urotech. Biopsies were performed in patients randomly divided into two groups. Group I in which MRI-Sp positive places were localized by use of our own electronical method of MRI images reconstruction and then tranfering them to TRUS image. Group II in which MRI-Sp positive places were localized by use of MRI image only.
Results: Biopsies were performed in patients randomly divided into two groups I-with reconstruction images from MRI-Sp and II without this reconstruction.

Result of histopathological examination	Group II, N = 17 (without image reconstruction)		Group I, N = 17 (with image reconstruction)	
	N	%	N	%
Prostate cancer	4	23.5	8	47.0
PIN II	1	5.8	2	11.7
Inflammatory changes	3	17.6	5	29.4
No changes	9	52.9	2	11.7

Conclusions: Proton Magnetic Resonance Spectroscopy Imaging when compared to morphological MR provide additional informations about metabolic changes in prostate tissue. Our own method of localizing and transfering Proton Magnetic Resonance Spectroscopy Images to ultrasonography image increase prostate cancer detectability.