scratch, are statistically significant. On average, the shortest time it takes for the generation of automatic contours and for manual correction is always obtained with MIM. In regards to the overlap (quality) of volumes, the organs that are closer to the volumes generated manually by the physician are the femoral heads, in all software solutions. Those most susceptible to change are represented by the bowel and rectum. Furthermore, a greater uncertainty in the automatic definition of the contours has been observed in both the cranial and caudal areas. *Conclusion:* From a clinical point of view, the automated contouring workflow was shown to be significantly shorter than the manual contouring process from scratch, even though manual correction of the VOIs is always needed. For a prostate patient this is about 40 minutes less. For all patients, the time saved by using the software products was comparable and, compared to manual contouring, was statistically significant.

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THE GENITOURINARY DISEASES HEALTH-CARE AMONG PATIENTS AND GENERAL PRACTITIONER

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Introduction: A general awareness of the most common genitourinary diseases is often lacking.The aim of the present study was to investigate the attention of the general practitioner and of the patient to the genitourinary diseases. An incomplete medical history and/or an inadequate physical examination might be responsible of late diagnosis and improper management. *Patients and Methods:* A self administered questionnaire was obtained by our outpatients before the urological visit. As a preliminary step we administered a very simple questionnaire consisting of four multiple choice questions: 1) Did your general practitioner examine your external genitalia in the last five years? Did you ask for this examination? 2) Did your general practitioner prescribe any clinical investigations? 3) Have you ever seen blood in your urine? Did you advise your doctor? 4) How long time did elapse between the first symptom and our councelling? The study should be closed if less than 5 patients among the first 20 showed an improper attention to genitourinary pathology, otherwise, 200 consecutive patients at least should be entered. A further structured interview was planned in the case of doubtful results. *Results:* From December 2011 to February 2012, 327 questionnaires were obtained from 358 patients with a compliance of 91.3%. The median age of the patients was 61 years (range: 15-91). Two hundred fiftyfive (78%) were men. Out of 327 patients only 72 (22%) underwent a physical examination comprehensive of the external genitalia in the previous five years. The remaining 250 (76.4%) patients were not examined and, more relevant, they did not ask for. Forty-nine (63.6%) out of the 77 patients were examined on their specific request. Only 172 (52.6%) patients underwent laboratory and/or imaging assessment before urological councelling. Gross haematuria was the main urological symptom in 91 (27.8%) of cases. The general practitioner was not adviced of patients' symptom in 13% of cases and, when informed, a urological assessment was required in only 47%. *Discussion and Conclusion:* Our preliminary survey point out a limited attention to the genitourinary diseases both from the general practitioner and the patient. Noteworthy, in case of gross haematuria 20% of the patients did not inform the family doctor and a urological assessment was indicated in only 50% of cases.

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PLASMATIC SIL 6R/IL-6 RATIO AS A POTENTIAL PREDICTOR OF HIGH GLEASON SUM AT RADICAL PROSTATECTOMY

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Background: Approximately 40% of males with low Gleason grade clinically localized prostate cancer (PCa) at biopsy were finally diagnosed with high Gleason grade PCa at radical prostatectomy (RP). Therefore, a more reliable assessment of the Gleason grade prior to RP is required. Readily available modalities such as circulating biomarkers may be useful for this purpose. The aim of this study was to evaluate the ability of preoperative interleukin 6 (IL-6) and its soluble receptor (sIL-6R), as well as urokinase-type plasminogen activator (u-PA), its receptor (u-PAR) and the inhibitor (PAI-1) to predict Gleason score upgrading. *Patients and Methods:* A total of 51 PCa patients with biopsy Gleason score ≤7 were studied. Preoperative serum samples were collected prior to digital rectal examination (DRE) and TRUS. Blood was collected into non-heparinized tubes and serum was separated within 1 h of blood collection. The serum was stored at –80˚C and then

thawed just prior to testing. Serum levels of PSA, free-PSA and IL-6 were measured using the Immulite 2000 automated assay (DPC, Los Angeles, CA, USA). The concentrations of sIL-6R (R&D Systems, Minneapolis, MN, USA), uPA, uPAR and PAI-1 (Assaypro, Winfield, MO, USA) in serum were determined according to the manufacturer's instructions using the ELISA test. Every sample was run in duplicate and the mean was used. The differences between the two measurements were minimal. *Results:* GS upgrading was defined as a Gleason sum increase between biopsy and RP from ≤7 to >7, since this is important for the therapeutic strategy. On this basis, an upgrade was noted in 5 (10%) samples. Median sIL-6R values were found to be significantly higher in patients with GS upgrading (difference in medians, 28.40 ng/ml; 95% CI, 5.60-49.44; p=0.024). The association between sIL-6R and GS upgrading became more significant by using the sIL-6R/IL-6 ratio (difference in medians, 7.77; 95% CI, 1.72-11.28; p=0.011). Sensitivity and specificity of sIL-6R and the sIL-6R/IL-6 ratio were explored by ROC curve analysis (Figure 1).

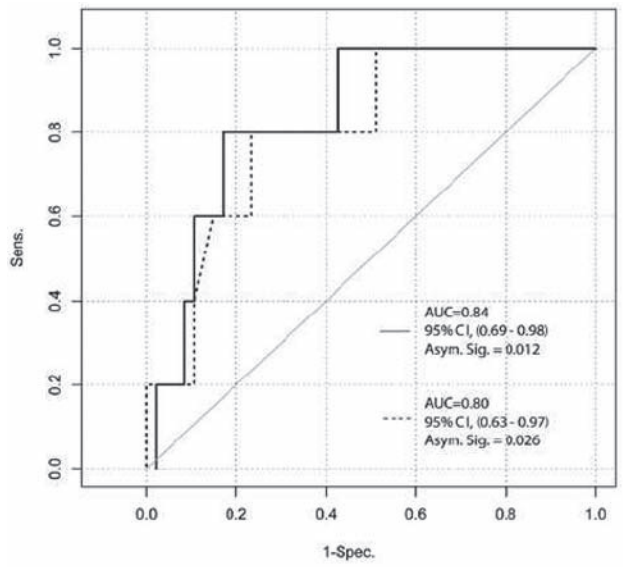

Figure 1. *ROC analysis comparing sIL-6R (--) and sIL-6R/IL-6 ratio (–).*

The results indicated an extremely good ability to predict the probability of biopsy Gleason sum upgrading of the two parameters (sIL-6R: AUC=0.80; 95% CI, 0.63-0.97; p=0.026. sIL-6R/IL-6 ratio: AUC=0.84; 95% CI, 0.69-0.98; p=0.014). The optimal cut-off point for sIL-6R was 76.5 ng/ml, providing a sensitivity of 80% and a specificity of 76%, whereas for the sIL-6R/IL-6 ratio the optimal cut-off point was 13.5 with comparable sensitivity (80%), but higher specificity (83%). Discussion and *Conclusion:* sIL-6R may be a significant circulating biomarker employed to predict GS upgrading in patients with a biopsy GS ≤7. Moreover, this ability appears to be enhanced by calculating the sIL-6R/IL-6 ratio. These findings may provide an additional 'staging tool' for PCa patients, which may be of great significance in guiding clinicians' treatment choices, according to current guidelines.

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CHANGES IN HEALTH-RELATED QUALITY OF LIFE OVER THE FIRST YEAR IN ACTIVE SURVEILLANCE

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Background: The importance of the assessment of Health-Related Quality of Life (HRQoL) has been fully acknowledged when considering the implications of prostate cancer treatments. In particular, the HRQOL of patients undergoing Active Surveillance (AS) is currently under evaluation and data are still sparse. The aim of this study was to evaluate changes in HRQoL during the first year in AS, also in comparison with data reported in the literature. *Patients and Methods:* Between November 2007 and January 2012, 132 patients were included in PRIAS-QoL study and completed self-report questionnaires at enrolment in AS protocol (Time 0). Evaluations after 10 (Time 1) and 12 months (Time 2 - after the first re-biopsy) were completed by 99 and 69 patients, respectively. Validated questionnaires assessing quality of life and psycho-social issues were administered, including Functional Assessment of Cancer Therapy – Prostate Version (FACT-P), used to measure HRQoL in terms of: physical wellbeing (PWB), social wellbeing (SWB), emotional wellbeing (EWB), functional wellbeing