LOCAL PERIPROSTATIC ANESTHESIA BETWEEN OPTION AND NECESSITY IN TRANSRECTAL ULTRASOUND-GUIDED PROSTATE BIOPSY (Abstract) According to the European Association of Urology guidelines, local periprostatic anesthesia during ultrasound guided biopsy is "state of the art" without specifying the exact benefits and character of choice vs. necessity of this maneuver. **Aim:** To determine the benefits of using periprostatic anesthesia as standard method of analgesia in patients undergoing transrectal ultrasound guided prostate biopsy. **Material and methods:** We conducted a prospective randomized study involving 100 biopsy patients. The patients were randomized in two groups, 50 patients benefiting from local periprostatic anesthesia with 10 ml of lidocaine and the remaining 50 without local anesthesia. In our clinic we use the 12-core prostate biopsy procedure using 18G/20 cm caliber needles. To assess perceived pain intensity during the procedure, immediately after biopsy we applied to patients a VAS questionnaire (Visual Analogue Scale) as a simple method of quantitative evaluation of a symptom the perception of which varies greatly between individuals. **Results:** A reduction in perceived pain by 45.06% (30.47 vs. 16.74) was recorded in the group receiving local periprostatic anesthesia. It is also worth mentioning that the patients receiving anesthesia said that anesthesia punctures were the most painful (the remaining punctures being much less painful), while patients without anesthesia reported pain intensity levels more or less equal in all 12 performed punctures. **Conclusions:** Local anesthesia is a necessity in ultrasound guided prostate biopsies as it significantly reduces pain intensity in patients undergoing this diagnostic procedure. **Keywords:** PROSTATE BIOPSY, LOCAL ANESTHESIA, PAIN.

The European Association of Urology guidelines state that local periprostatic anesthesia during the ultrasound guided biopsy is a "state of the art" method without specifying its exact benefits and choice vs. necessity of this maneuver (1). Consequently, we decided to conduct a comparative study in patients who already underwent an ultrasound guided transrectal prostate biopsy in an effort to demonstrate whether local periprostatic anesthesia with lidocaine 1% (2) has advantages or not.
over no anesthesia in relation with perceived pain during core biopsy.

**MATERIAL AND METHODS**

In the interval May 21, 2010- October 29, 2012, at the Urology Clinic of the „C.I. Parhon” Hospital in Iași, 300 ultrasound guided transrectal prostatic biopsies were performed. The study was conducted on 100 patients who underwent biopsy in the interval September 23, 2010- August 25, 2011 with the purpose of determining whether local periprostatic anesthesia is a state of the art method or a necessity in ultrasound guided transrectal prostatic biopsy.

In our clinic we use the 12-core prostate biopsy procedure (fig.1) using 18G/20cmcaliber needles (fig.2) (3,4,5). For guiding we use a BK Pro Focus UltraView ultrasound equipped with an endorectal transducer allowing the simultaneous visualization on the screen of the transverse and longitudinal planes (fig. 3). This type of visualization facilitates the precise identification of all prostate regions and especially the accurate location of puncture trajectory in different zones of the prostate, thus simplifying the punctures and allowing a high standardization of the biopsy scheme.

Also, minimal analgesia with 1 vial of Ketorol and 1 vial of Algocalmin administered 30 minutes before the puncture is provided in all patients.

The study was conducted on a randomized group of 100 patients: all of them were
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given the above mentioned minimal analgesia and 50 were also given a periprostatic 10 ml injection of lidocaine (5 ml per side) (6, 7). To assess perceived pain intensity during the procedure, just after biopsy the patients were asked to fill-out a Visual Analogue Scale questionnaire (VAS) as a simple method of quantitatively evaluating pain perception which varies greatly between individuals (fig. 4).

![Visual Analogue Scale (VAS)](image)

**Fig. 4.** Visual Analogue Scale (VAS)

The advantage of using VAS is that pain is measured on a 0-100 scale, thus being more sensitive to small variations. Furthermore, the method can be easily explained to patients, who have no problem in understanding the relatively simple manner of rating pain. The scale gives a quantifiable number reflecting the pain perceived by the patient (8). The questionnaire was applied immediately after the completion of the procedure in order to obtain a more accurate evaluation of pain intensity. The patients were asked to rate perceived pain intensity over the whole procedure. This prevented us from strictly assessing the pain felt during biopsy punctures, but added validity to the evaluation of the same type of pain in all patients by the fact that the comparison of the obtained scores is possible and the obtained results reliable. These obstacles arise every time in studies evaluating the perceived level of pain and comparing it between different groups of persons. The difficulty stems from the major differences in pain perception between persons and also from the way pain is defined in relation with a person’s social status, physio-pathological history and even professional training (9).

The obtained ratings were added up, an arithmetic average was calculated for each group, and then comparisons were made (tab. I).

<table>
<thead>
<tr>
<th>Groups of patients</th>
<th>Periprostatic anesthesia</th>
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<tbody>
<tr>
<td></td>
<td>With</td>
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<tr>
<td>Number of patients</td>
<td>50</td>
</tr>
<tr>
<td>Average VAS value</td>
<td>16.74</td>
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<tr>
<td>Extreme VAS value</td>
<td>0 – 39</td>
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*In the group with local periprostatic anesthesia a decrease in the perceived pain level by 45.06% (30.47 vs. 16.74) – value p 0.00064, was noticed. Furthermore, the patients who received periprostatic anesthesia reported anesthesia punctures as being*
more painful (the remaining punctures being less painful), while the patients on no periprostatic anesthesia reported a more or less equal level of pain intensity in all 12 punctures performed. Results distribution shows that in the group with periprostatic anesthesia the highest values of perceived pain intensity were much lower than in the group with no periprostatic anesthesia (82 vs. 39) and that there were less VAS scores below 20 in the group with no periprostatic anesthesia (18 patients), while the periprostatic anesthesia group frequently presented VAS scores below 20 (32 patients) (fig. 5).

**CONCLUSIONS**

The obtained results are in favor of periprostatic anesthesia regardless of the analysis method. Nevertheless, we need to mention that the only reliable method for statistically analyzing the data obtained by VAS in view of qualitative comparison of groups of persons is represented by the arithmetic average of all obtained ratings. VAS does not provide accurate information when patients are compared individually due to the high degree of subjective rating and difficulty in measuring pain. However, comparing the average scores of the two groups we feel entitled to state that local periprostatic anesthesia is a necessity in ultrasound guided prostate biopsy, significantly reducing perceived pain in the patients undergoing this diagnostic procedure. Under these conditions, as a result of this study we have adopted local periprostatic anesthesia with lidocaine as a mandatory standard method in transrectal ultrasound guided prostate biopsy protocol.

**REFERENCES**

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TIME TO OFFER A POLYPILL TO PEOPLE AGED 50 OR OVER?

In David S. Wald and his coauthors study, the clinical and academic aims are to bridge the interventional and preventive approaches to cardiovascular disease. He coordinates the Polypill Prevention Programme, a novel service that adopts the polypill approach in coronary heart disease and stroke prevention. The concept of a “polypill” as a tablet or capsule consisting of a combination of drugs to simultaneously reduce several cardiovascular risk factors first captured worldwide attention in 2003. Suggested components for this initial polypill were aspirin, a statin, 3 blood pressure-lowering drugs at half the standard dose (eg, a thiazide, an angiotensin-converting enzyme [ACE] inhibitor, and a calcium-channel blocker), and folic acid. Since that time, several polypill formulations have been manufactured and tested in clinical trials for primary and secondary prevention of cardiovascular disease. Some are already commercially available in India. The clinical trials demonstrated the feasibility and safety of a polypill in lowering blood pressure and low-density lipoprotein (LDL) cholesterol levels in people with 1 or more cardiovascular disease risk factors, although these effects were generally less than predicted from early research. The use of a polypill in the primary prevention of cardiovascular disease has been a focus of research at the Wolfson Institute, where the inventors of the polypill work. A Polypill Prevention Programme was established in 2006 to provide a service applying the polypill approach to the prevention of first heart attacks and stroke; separate component drugs were used at the correct doses, because a single polypill was not yet available. Using a randomized, double-blind, placebo-controlled, crossover design, they were able to estimate risk factor reductions with the polypill more accurately than in previous polypill trials, which used a parallel-group design. The polypill consisted of amlodipine 2.5 mg, losartan 25 mg, hydrochlorothiazide 12.5 mg, and simvastatin 40 mg, and was manufactured for the study by Cipla (Mumbai, India). For the first time in a study of the polypill, the only criteria for participation were age (≥50 years) and no history of cardiovascular disease. Using the observed reductions in blood pressure and LDL cholesterol and evidence of the quantitative relationship between risk factors and risk, Dr. Wald and his coauthors calculated that this polypill would result in reductions of 72% for ischemic heart disease events and 64% for strokes. These results were greater than those in earlier trials. No serious adverse events were reported during the study (Wald DS, Morris JK, Wald NJ. Randomized polypill crossover trial in people aged 50 and over. PLoS One. 2012;7: e41297).

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