

surgery can strongly predict a higher risk of sexual dysfunction after surgery.

<http://dx.doi.org/10.1016/j.pbj.2017.07.037>

## PS197

### Compensatory renal overgrowth after unilateral nephrectomy in children

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**Aim:** The aim of the study is to investigate the intensity of renal overgrowth after unilateral nephrectomy in children's population, as well as to check dependency between kidney's dimensions and patient's age.

**Introduction:** Solitary kidney after unilateral nephrectomy tends to overgrow. In adult population the dynamic of overgrowth and maximal dimensions are identified. In childhood there are no described patterns of the process of solitary kidney overgrowth.

**Methods:** Patients who had undergone unilateral nephrectomy in the University Children's Hospital of Cracow were enrolled. The length of the solitary kidney was compared with control group which was based on ultrasound examination of the kidney (left  $n = 1601$ , right  $n = 1635$ ) performed in the same clinic in children without kidney disease. All examinations were carried out with Philips Epiq 5G ultrasound unit with convex probe C5-1 MHz by a single physician (PS).

The comparison was analysed with t-student test for one or two means. 18 children (7 males) from the birth to the age of 17 who underwent in total 48 ultrasound examination after the nephrectomy were enrolled.

**Results:** There was significant difference between the mean of the kidney's length in patients after unilateral nephrectomy and control group. The difference was the most explicit in the groups at the age from 8 to 13 for the right kidney (difference range from 13 to 22 mm,  $p < 0.05$ ) and in the groups at the age from 8 to 12 for the left kidney (difference range from 11 to 19 mm,  $p < 0.05$ ). Solitary kidney in children after nephrectomy is significantly larger than in the control group.

**Conclusion:** The dynamic of solitary kidney overgrowth in children should be taken into consideration while performing the sonographic examination. Chronic kidney disease may be suspected when overgrowth of the solitary kidney is not present. Further research dealing with the dynamic of compensatory kidney overgrowth in children is indicated.

<http://dx.doi.org/10.1016/j.pbj.2017.07.038>



Internal Medicine Plenary Session  
Saturday, September 16th, 14h00

## PS067

### Cardiac effects of Ledipasvir plus sofosbuvir for Hepatitis C treatment in thalassemia



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**Aim:** This study was designed to evaluate the effects of Ledipasvir plus Sofosbuvir on cardiac function of thalassemia patients.

**Introduction:** Hepatitis C (HCV) infection is much more prevalent in thalassemia patients because of blood transfusion. Thalassemia patients may also have cardiac abnormalities due to congenital problems, anemia, and increased burden of iron in their myocardium. HCV treatment has been revolutionized after introducing new direct acting antiviral (DAA) drugs, and data is limited about effects of these new drugs on patients' cardiac function.

**Methods:** In this study HCV-infected thalassemia patients which were selected for treatment with DAAs in HepCC-2 trial (NCT03061032) were evaluated prospectively. Fixed dose daily tablets of 90 mg-Ledipasvir plus 400 mg-Sofosbuvir (12/24week,  $\pm$ ribavirin) was prescribed for patients. All patients were evaluated by a unique echocardiography fellowship for collecting the echocardiography findings of before and after the treatment. Then effects of mentioned drugs on patients' cardiac function were evaluated.

**Results:** Thirty-two patients with mean age of  $24.2 \pm 6.4$  years were evaluated. The treatment response, which was evaluated by rapid virological response and sustained virological response rates, was 100%. The patients' left ventricular end-systolic diameter (LVESD) and volume (LVESV), global longitudinal strain (GLS) of LV and average, and right ventricle (RV) size were significantly increased after finishing the treatment ( $P < 0.05$ ). Changes in abovementioned parameters were not correlated with patients' myocardium iron load ( $P > 0.05$ ). There were no significant differences in before-after comparison of other echocardiographic parameters ( $P > 0.05$ ).

**Conclusion:** Ledipasvir-Sofosbuvir combination therapy was safe for our HCV-infected thalassemia patients and cause no serious cardiac events. But minimal changes in strain, size, and volume of left ventricle, and size of right ventricle may refer to needing more precise cardiac evaluations in these patients. Also, our patients' ejection fraction remained unchanged. Hence, we suggest more specific and long-term echocardiographic evaluations before and after treatment, if needed.<sup>1-3</sup>

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<http://dx.doi.org/10.1016/j.pbj.2017.07.039>

Neurosciences Plenary Session  
Saturday, September 16th, 14h00

### PS141

#### Paclitaxel-induced neuropathic pain: Unravelling the underlying mechanisms at the central nervous system

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**Aim:** Here we studied the effects of the cytostatic paclitaxel on: (i) the development of nociceptive and aversive behaviors; (ii) noxious-evoked-activation of spinal dorsal horn neurons and (iii) on descending noradrenergic modulation, which is the main spinal nociceptive inhibitory system.

**Introduction:** Chemotherapeutic drugs are widely used for cancer treatment but they also cause numerous deleterious side effects. Chemotherapy-induced neuropathy (CIN) is one of the most common side effects. The mechanisms underlying CIN are starting to be uncovered namely the alterations induced by cytostatics at the peripheral nervous system but the effects of these drugs at the central nervous system are still poorly studied.

**Methods:** Male Wistar rats were injected with paclitaxel (Taxol, 2.0 mg/kg) or the vehicle solution dimethyl sulfoxide on four alternate days. Nociceptive and aversive behaviors were assessed by the von Frey and conditioned place aversion (CPA) tests, respectively. Noxious-evoked-activation of spinal dorsal neurons was achieved at one month after CIN by evaluating the expression of c-fos expression upon cold stimulation. To study the descending noradrenergic pain modulation we assessed the effects of the  $\alpha$ 2-adrenoreceptor agonist clonidine at 1 and 10  $\mu$ g administered intrathecally, on the von Frey test. We further assessed the expression of the  $\alpha$ 2-adrenoreceptor and dopamine- $\beta$ -hydroxylase (DBH), a nor-adrenaline biosynthetic enzyme expressed in noradrenergic fibers, at the spinal dorsal horn.

**Results:** Paclitaxel induced mechanical allodynia and aversive behaviors. c-fos and DBH expression were increased in paclitaxel-treated animals while  $\alpha$ 2-adrenoreceptor expression remained unaltered. Clonidine induced antinociception at both doses with more pronounced effects in paclitaxel-treated animals.

**Conclusion:** Paclitaxel-treated animals showed neuropathic like-behaviors and increased spinal neuronal activation. It remains to ascertain if DHB upregulation results in increased spinal nor-adrenaline levels, but the increase of  $\alpha$ 2-AR antinociceptive potency in paclitaxel-treated animals indicates the recruitment of

descending inhibition probably as a buffer to increased spinal sensitization.

**Acknowledgements:** Funding: Norte 2020 refs: NORTE-01-0145-FEDER-000008.

<http://dx.doi.org/10.1016/j.pbj.2017.07.040>

Oncology & Molecular Biology Plenary Session  
Saturday, September 16th, 14h00

### PS203

#### Is there horizontal transfer of the oncogene BCR-ABL mediated by extracellular vesicles released by chronic myeloid leukemia cells?

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**Aim:** The aims are to verify if: (i) EVs released by CML cells carry BCR-ABL in their cargo and if that BCR-ABL is captured by recipient cells; (ii) EVs released by a CML drug resistant cell line, with mutant BCR-ABL, may transfer mutant BCR-ABL and a resistant phenotype to sensitive cells.

**Introduction:** BCR-ABL, the fusion gene originated by the t(9;22) translocation, is responsible for Chronic Myeloid Leukemia (CML). BCR-ABL codes for a constitutively active tyrosine kinase (TK), deregulating downstream pathways and promoting cell survival. Imatinib mesylate (Gleevec), a TK inhibitor, is the gold standard treatment for CML; nevertheless, resistance to this drug often arises, mostly caused by additional point mutations on BCR-ABL and representing a major clinical drawback. It was recently suggested that drug resistance might be horizontally transferred by EVs, from resistant to sensitive cells.

**Methods:** A pair of drug-sensitive BCR-ABL+ cell line (KBM5), and its drug-resistant counterpart (KBM5-STI, harboring mutated BCR-ABL) were used in this study. EVs were isolated by ultracentrifugation and characterized by Dynamic Light Scattering, Nanoparticle Tracking Analysis, Transmission Electron Microscopy and Western Blot. The resazurin assay was used to assess drug response of drug resistant cells, drug sensitive cells and of drug sensitive cells following co-culture with EVs released by drug resistant cells. BCR-ABL levels were analysed by Western Blot.

**Results:** A dose-response curve to imatinib was performed in both cell lines, to confirm their different responses to the drug. Regarding EVs characterization, they had between 10 and 1000 nm and presented several markers of EVs with no evidence of cellular contaminants. Interestingly, BCR-ABL protein was detected in the EVs.<sup>1–9</sup>

**Conclusion:** These results suggest that there is selective packaging of BCR-ABL into EVs, promoting oncogenic protein shedding. Ongoing work will clarify if the EVs released by the resistant cells have mutant BCR-ABL and if they confer drug resistance to recipient sensitive cells.

