INTRODUCTION
Cochlear implantation is worldwide fully accepted method dedicated to patients with total or partial bilateral deafness. Nevertheless, vestibular and balance disorders are still one of the common complaints among the patients after the operation and while using the implant. According to the literature data, the percentage of vestibular symptoms ranges from 5.9% to 80% and that of vestibular examination abnormalities from 20-60%.
Till now much attention has been paid to hearing preservation in implanted patients. Nowadays, when the indications for cochlear implantation are extending the question of preserving vestibular function has to be raised as well.

AIM
The study aims at assessing and comparing the vestibular function in patients with low frequency residual hearing versus patients with total deafness. The question that is raised is if and to what extent hearing preservation at low frequency coexists with better vestibular status and better responses in vestibular tests.

MATERIALS
73 patients with bilateral profound deafness were divided into four groups according to the degree of hearing preservation: Group 1 – patients with partial deafness dedicated to PDT-EC (partial deafness treatment – electrical complement), Group 2 – patients with partial deafness for PDT-EAS (partial deafness treatment – electro-acoustic stimulation), Group 3 – patient with partial deafness for PDT-ES (partial deafness treatment – electric stimulation), Group 4 – patients with total deafness.

METHODOLOGY
The patients underwent preoperatively cVEMP and VNG examination. cVEMP response was elicited by 500 Hz tone burst of 97 dB nHL, stimulation rate 5 Hz, 2:1:2, filter band from 300 Hz, SCM muscle contraction level 50µV-150µV. The patients with superior semicircular canal dehiscence and diagnosed vestibular diseases influencing VEMP and VNG responses were excluded from the study.

RESULTS
The presence of VEMP response is strongly dependent on age. Only the comparison between total deafness versus PDT-EAS group and PDT-ES versus PDT-EC group can be made, as the mean age in these groups is similar. The rates of positive VEMP responses is higher in PDT-EAS and PDT-EC group respectively, showing that patients with low frequency residual hearing have better vestibular status than those with total deafness.
VNG test pointed out no significant differences in vestibular reactivity in analysed groups.

CONCLUSIONS
■ Hearing preservation at low frequencies goes with better vestibular status at least measured by cVEMP.
■ While using hearing preservation techniques during cochlear implantation in patients with low frequency residual hearing we should be aware that preserving vestibular function is crucial as well.
■ The study has to be continued on more patients with the application of further tests: video Head Impulse Test (HIT) and oVEMP in order to assess semicircular canals and utricle function.