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**GAIT PARAMETERS IN PREGNANT WOMEN WITH AND WITHOUT PELVIC PAIN**

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**Background:** Extensive anatomical and functional changes in musculoskeletal system result in modifications or alterations on gait and movements during pregnancy. Excessive muscle use in pregnancy may cause low back or pregnancy-related pelvic pain (PRPP) (1). Investigating gait adaptations during pregnancy in women with & w/o pelvic pain may lead us to understand the origin of PRPP better. Objective: The aim of our study is to investigate pelvic angles and spatial and temporal gait parameters in pregnant women with & w/o pelvic pain and effect of pelvic pain on the biomechanics of walking pattern.

**Method:** Twentythree pregnant women with & w/o pelvic pain between 24-36 weeks were evaluted. These women were no musculoskeletal pain in knee and ankle, no neuromuscular trauma or disease and no cardiovascular problems (Table1-2). Before performing the motor task, anthropometric data (age, gender, etc.) were recorded and active straight leg (ASLR), posterior pelvic provacation (P4), flexion, abduction external rotation (FABER) and sacroiliac palpation (SIP) tests were used in assesment of pelvic pain (Table 3). Pelvic Pain Impact Questionnare (PPIQ) was used for each women (Table 4). Evaluations of gait by using G-Walk System or similar walkway is a reliable valid measurement. For each gait trial, between 12–16 steps were sampled and included in the analysis. No rest period was allowed between trials.

**Gait analyses:** Spatiotemporal parameters of gait were assessed using a validated wireless inertial sensing device (G-Sensor®, BTS Bioengineering S.p.A., Italy) that was attached to the subject's waist using a belt, covering the L4–L5 inter-vertebral space. Subjects were asked to walk 20 meters forward and backward at normal walking speed. The collected data, transmitted via Bluetooth to a PC and processed using dedicated software (BTS G-Walk®), allowed us to obtain a set of gait parameters.

Statistical analysis: Descriptive statistics were presented as frequency, percentage, mean±standart deviation using SPSS 23.0. Nonparametric contionous variables were analysed by Mann Whitney U test and categorical data were analysed by Fischer Exact test between control and pelvic pain groups. The statistical level of signficance was set at 0.05.

**Results:** The rotation of pelvic angles during gait analyses are significantly different between control and pelvic pain groups ( $p < 0.05$ ). Pelvic asymmetry was observed more frequently in pelvic pain group ( $p < 0.05$ ). No statistically significant difference was observed between the groups in other spatiotemporal gait parameters ( $p > 0.05$ ) (Table 4).

**Conclusion:** Pelvic pain during pregnancy may lead to increased pelvic rotation and asymmetry. We will continue to evaluate more patients to improve our findings. Further studies are necessary to confirm the results of this unique study about the gait parameters in PRPP.

**References:**

1.Foti,T., Davids, J.R., Bagley, A. (2000) A biomechanical analysis of gait during pregnancy.J.Bone Joint Surg Am,82(5),625-625.