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### Interobserver and Intraobserver Agreement in Perfusion and Functional Interpretation of Gated Myocardial Perfusion SPECT

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**AIM:** To evaluate the intraobserver and interobserver variability in LV perfusion and function interpretation; to define the repeatability of QPS/QGS software quantitative parameters and to compare them with visual parameters. **MATERIALS AND METHODS:** 139 patients were interpreted by 3 independent observers, with and without knowledge of clinical data, using a 20-segment scoring model in 2 day rest/stress Tc-99m sestamibi gMPS. Standard QPS/QGS algorithm has been applied to derive quantitative parameters. Intraobserver and interobserver agreement for global and vascular (LAD, Cx and RCA) territories, also agreement between CAG and observers; repeatability of QPS/QGS software perfusion and function parameters were assessed. **RESULTS:** Intraobserver perfusion agreement in global, LAD, Cx and RCA territories were %72-100, %83,5-91, %88,5-93 and %85,6-92 respectively ( $p < 0,05$ ). Clinical knowledge had no impact on interpretations. Interobserver perfusion agreement was higher in vascular territories than global interpretations (%83,5-92,8 vs %64,7-78,4) with the least agreement in the LAD territory ( $p = 0,000$ ). There was significant agreement between observers and CAG results in Cx (%81,6-86) and RCA (%77,2-83,3) ( $p = 0,000$ ) territories but not in LAD territory in any of the observers ( $p > 0,05$ ). When we compared the visual perfusion scores with the QPS software's automatic quantification scores it was seen that there were more differences between the least experienced observer and software than the others'. In general there were significant but not clinically specific interobserver variabilities in the wall motion and thickening scores. When we compared the visual scores with the QGS scores there were significant differences between parameters except rest and stress SMS in Cx territory ( $p > 0,01$ ). There was no impact of the processing procedure on QPS/QGS software and the repeatability of this software and EF values were high ( $p > 0,05$ ). **CONCLUSIONS:** There were significant interobserver and intraobserver agreement in perfusion interpretation either global or each vascular territory. There was significant agreement between the visual interpretation and the CAG results especially in the Cx and RCA arteries. The interobserver and intraobserver agreement was higher in the wall motion scores than thickening scores. There was no significant difference between 3 observers' interpretations, also there was no difference if they're blinded or not. QPS/QGS software quantitative perfusion and motion/thickening scores and LVEF values showed high repeatability.