

**Poster 48:** Demographic and Clinical Associations with WNT4 rs3820282 Genotype in Gynecologic Malignancies

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Topic  
Ovarian

## Objectives

WNT4 plays a key role in female reproductive tract development and may contribute to gynecologic malignancies. The rs3820282 variant in WNT4 has been associated with endometriosis and ovarian cancer risk. We evaluated associations between WNT4 rs3820282 genotype and demographic and oncologic characteristics.

## Methods

This retrospective cohort included 106 patients stratified by genotype: wild type (G/G, n=67), heterozygous (G/A, n=33), and homozygous variant (A/A, n=6). Demographic, tumor, treatment, and comorbidity variables were compared across groups

## Results

Among the cohort, majority identified as having the wildtype genotype (n=67) of which majority identified as white (n=52, 78%). Of the n=19 patients that identified as being Hispanic, n=11 carried wild-type genotype (58%; 42% variant genotype). Among n=5 patients identified as Asian, only n=1 carried a wild-type genotype (20%; 80% variant genotype). Majority of tumors were ovarian in origin (n=89). Of those from patients with variant genotype, all tumors (n=6, 100.0%) were identified as ovarian origin. Of those of ovarian origin that were identified, majority of patients were found to have high grade serous histology (n=59, 55.67%). Among patients with high grade serous histology, 60.6% (n=20) were identified to have at least one variant. When looking at surgical outcomes, most patients with R0 resection were wild type (n=23). Patients with variant genotypes had higher rates of advanced stage III/IV disease; advanced disease was present in 82% of wild-type patients compared to 84% of variant genotype patients. Of the n=9 patients with a history of endometriosis, n=4 were identified to be wild type and n=5 were identified to carry at least one variant allele. Patients with wild-type genotypes had a mean HDL of 55 mg/dL and a mean LDL of 104 mg/dL, compared to patients with at least one variant allele who had a mean HDL of 50.56 mg/dL and a mean LDL of 109.2 mg/dL.

## Conclusions

WNT4 rs3820282 variant genotypes may be associated with more advanced ovarian cancer presentation, endometriosis, and increased disease burden. These findings support a potential role for WNT4 in disease severity and justify validation in larger, diverse cohorts to better elucidate clinical patterns and impact.

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