Identification and validation of key genes to predict therapeutic drugs in ovarian cancer

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BACKGROUND

5th leading cause of cancer related death among women
10.9 per 100,000 affected each year
49.1% 5-year survival rate in serious high-grade carcinoma

METHODODOLOGY

Refining datasets
Gene Ontology and KEGG Pathway Analysis
Hub genes Identification & Validation
Identification of common differentially expressed genes
PPI Network Construction
Drug Discovery & Molecular docking

RESULTS

GENE

TOP2A
TYMS
KIF11

DRUG

Moxifloxacin
Amsacrine
Teniposide
Fleroxacin
Raltitrexed
Flouxuridine
Trifluridine
Pralatrexate
Monastrol

CONCLUSION

Effectiveness
The identified hub genes and drugs can be critical in the quick intervention of ovarian cancer with limited side-effects

Health equity:
Unlike chemotherapy and cytoreductive surgery, cancer genes suppressing drugs are way less expensive and more accessible

OBJECTIVES

- Identification of potential hub genes that can serve as drug targets for high-grade ovarian carcinoma
- Identification of critical biomarkers and specific hub and key genes that control significant biological functions
- Drug design and development for intervention