



ژنتیک پاسخ
به داروها

1. Acetaminophen

rs10929303-CC
Evidence level: 3

Genes analyzed: UGT1A
Area: Analgesics and Antipyretics | Pain

Recommendations:

Patients with the CC genotype may have an increased risk of liver failure due to unintentional acetaminophen overdose as compared to patients with the CT or TT genotype. Other genetic and clinical factors may also influence risk of liver failure due to unintentional acetaminophen overdose.

2. Alprazolam

rs35599367-GG
Evidence level: 3

Genes analyzed: CYP3A;CYP3A4
Area: Benzodiazepines | Neurology

Recommendations:

Patients with alcoholism, anxiety and the GG genotype may have an increased response to alprazolam, as measured by decreased HAMA scores, as compared to patients with the AG genotype. Other genetic and clinical factors may also affect a patient's response to alprazolam.

3. Anastrozole

rs1008805-GG

Evidence level: 3

Genes analyzed: CYP19A1

Area: Anti-neoplastics (Aromatase Inhibitors) | Oncology

Recommendations:

Postmenopausal women with HR+breast cancer and the GG genotype may have a decreased likelihood of experiencing arthralgia when treated with anastrozole as compared to women with the AA or AG genotype. Other clinical and genetic factors may also influence likelihood of arthralgia in postmenopausal women with HR+ breast cancer who are treated with anastrozole.

rs727479-CC

Evidence level: 3

Genes analyzed: CYP19A1

Area: Anti-neoplastics (Aromatase Inhibitors) | Oncology

Recommendations:

Postmenopausal women with HR+ breast cancer and the CC genotype may have increased likelihood of breast cancer recurrence (increased recurrence free survival) when treated with anastrozole as compared to women with the AA genotype. Other clinical and genetic factors may also influence the likelihood of breast cancer recurrence in postmenopausal women with HR+ breast cancer who are treated with anastrozole.

4. Aspirin

rs3856806-CC

Evidence level: 3

Genes analyzed: PPARC

Area: Non-steroidal anti-inflammatory drugs (NSAIDs) | Pain

Recommendations:

Patients with the CC genotype and asthma may have a decreased, but not absent, risk for aspirin hypersensitivity as compared to patients with the TT genotype. Other genetic and clinical factors may also influence a patient's risk for aspirin hypersensitivity.

5. Atorvastatin

rs7412-CC

Evidence level: 2B

Genes analyzed: APOE

Area: Statins (lipid management) | Cardiology

Recommendations:

Patients with the rs7412 CC genotype may have decreased response to atorvastatin as compared to patients with the CT or TT genotype. Other genetic and clinical factors may also influence response to atorvastatin treatment.

6. Codeine

DPWG Guidelines

The Pharmacogenetics Working Group Guideline for codeine includes individual recommendations for cough or pain for CYP2D6 poor, intermediate, and ultrarapid metabolizer. In addition, for ultrarapid metabolizer, higher or lower doses and additional risk factors are taken into consideration.

Diplotype is *2/*2
Metabolizer status is NM
Evidence level: 1

Genes analyzed: CYP2D6
Area: Opioid analgesics | Pain

Recommendations:
Follow standard dosing guidelines

rs1799971-GG
Evidence level: 3

Genes analyzed: OPRM1
Area: Opioid analgesics | Pain

Recommendations:
There is currently no available evidence regarding the association between the rs1799971 GG genotype and codeine dose requirements. However, patients with the rs1799971 AG genotype may have increased codeine dose requirements as compared to patients with the AA genotype. This drug-variant pair has been assigned a no recommendation by CPIC, as it was determined to be not clinically actionable. Other genetic or clinical factors may also affect codeine dose requirements.

7. Dexamethasone

rs6092-GG

Evidence level: 3

Genes analyzed: SERPINE1

Area: Corticosteroid | General

Recommendations:

Pediatric patients with the GG genotype and acute lymphoblastic leukemia may have a decreased risk of osteonecrosis when treated with dexamethasone as compared to patients with the AA or AG genotype. Other genetic and clinical factors may also influence osteonecrosis risk.

8. Gabapentin

rs4240803-GG

Evidence level: 3

Genes analyzed: SLC7A5

Area: Anticonvulsants | Psychiatry

Recommendations:

Patients with the rs4240803 GG genotype may be at a decreased risk of experiencing adverse events when treated with gabapentin as compared to patients with the AG genotype. Other genetic and clinical factors may also affect risk of experiencing adverse events when treated with gabapentin.

rs4240803-GG

Evidence level: 3

Genes analyzed: SLC7A5

Area: Anticonvulsants | Psychiatry

Recommendations:

Patients with the rs4240803 GG genotype may have a decreased response to gabapentin as compared to patients with the AG genotype. Other genetic and clinical factors may also influence response to gabapentin.

9. Sertraline

DPWG Guidelines

Do not give doses exceeding 75 mg/day in patients with CYP2C19 poor metabolizer genotypes, and guide the dose by response and side effects and/or sertraline plasma concentration.

Diplotype is *1/*1
Metabolizer status is NM
Evidence level: -

Genes analyzed: CYP2C19
Area: Anti-depressants | Psychiatry

Recommendations:
Follow standard dosing guidelines

10. Tamoxifen

rs4646-CC
Evidence level: 3

Genes analyzed: CYP19A1
Area: Anti-neoplastics | Oncology

Recommendations:
Pre-menopausal women with the CC genotype and breast cancer may have decreased disease free survival when treated with tamoxifen as compared to patients with the AA and AC genotypes. Other genetic and clinical factors may also influence response to tamoxifen.

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