Bumrungrad Personalized Medication Review

Mr. Test Data

HN **********

Bumrungrad International HOSPITAL

Personalized Medication Review

Name Mr. Test Data HN ********** Date of birth *******

Collected Date: .....

Reported Date: .....

Personalized Medicine report

Genetic Testing for Drug Allergy
Pharmacogenomics for *HLA-A* and *HLA-B* **

In reference to the current database of drug-gene association, your results of HLA-A and HLA-B testing, which are related to drug allergy suggest that

- **You probably have a high risk of the drug induced severe cutaneous reaction (Positive HLA-A*31:01) if Carbamazepine (antiepileptic) is used.**

  Therefore, **Carbamazepine should be avoided.**

- You have a normal risk of drugs induced severe cutaneous reaction if the following medications are used,
  (1.) Abacavir (antiviral)
  (2.) Allopurinol (anti-hyperuricemia)
  (3.) Co-trimoxazole (antibiotic)
  (4.) Dapsone (antibiotic)
  (5.) Nevirapine (antiviral)
  (6.) Oxcarbazepine (antiepileptic)
  Therefore, the medications can be used per standard dosing guideline.

Genetic Testing for Drug Metabolism
Pharmacogenetics in DPYD and UGT1A1**

Drug – gene testing to predict the response and side effect of cancer medications

- You have a normal function of *DPYD* gene. The use of medications metabolized via DPD (Dihydropyrimidine dehydrogenase) enzyme; for example, the medications for treatment of colon cancer, stomach cancer, pancreatic cancer or breast cancer, has been shown as below,
  - 5-FU (Fluorouracil)
  - Capecitabine
  - Tegafur
  These medicines can be used per standard dosing guideline.

- You have a normal function of *UGT1A1* gene. The use of medications metabolized via UGT1A1 (UDP Glucuronosyltransferase Family 1 Member A1) enzyme has been shown as below,
  - Irinotecan (For treatment of colon, lung and pancreatic cancer)
  - Atazanavir (For treatment of HIV)
  These medicines can be used per standard dosing guideline.

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Genetic Testing for Drug Metabolism
Pharmacogenetics in TPMT and NUDT15**

Drug – gene testing to predict the response and side effect of immunosuppressive medications

- You have a normal function of TPMT and NUDT15 gene. The use of medications metabolized via TPMT (Thiopurine-*S*-methyltransferase) and NUDT15 (Nucleoside diphosphate-linked moiety X motif 15) enzyme has been shown as below,
  - Azathioprine (For treatment of Crohn's disease or Rheumatoid arthritis)
  - Thioguanine (For treatment of acute myeloid leukemia)
  - Mercaptopurine (For treatment of acute myeloid leukemia)
  These medicines can be used per standard dosing guideline.

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Genetic Testing for Drug Metabolism
PGx panel – BH MedGene test **

Drug – gene testing to predict the response and side effect of medications

Current medications

1. **Vocinti® (Vonoprazan)** is an antacid in the group of potassium–competitive acid blockers (P-CABs). The medicine is metabolized by CYP3A4 enzyme in a major pathway and CYP2B6 and CYP2D6 in a minor pathway. Since you have a normal function of CYP3A4, you may have a good drug response and low risk of side effects.

2. **Gasmotin® (Mosapride citrate)** is a medicine used in stimulating gastric motility. It is mainly metabolized by CYP3A4 enzyme. Since you have a normal function of CYP3A4, you may have a good drug response and low risk of side effects.

3. **Melatonin** is a supplement which helps control sleep cycle. It is mainly eliminated by CYP1A2 enzyme. Since you have a normal function of CYP1A2, you may have a good drug response and low risk of side effects.

   Regarding the medicine; Eltroxin® (Levothyroxin), Colpermin® (Peppermint oil), and multivitamin, the response including the efficacy and side effects of them could not be predicted from the genetic testing for drug metabolism (BH-MedGene; myDNA).

   Bring the lists of your current medications and supplements to the hospital every visit, so that the doctor and/or a pharmacist can recheck the possible side effects and interaction among them.

Note: The prediction is based on simply the genetic profile. Other factors such as patient's current condition, kidney and liver function, and drug interaction among drugs, etc. may also be considered by the doctor if your medication treatment would be adjusted.

Reviewed by …….

Pharmacy License No. ……

Approved by: ……

Pharmacy License ……

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