ASSOCIATON OF DIHYDROPYRIMIDINE DEHYDROGENASE DEFICIENCY WITH CAPECITABINE TOLERANCE

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4CPS-116
ATC 4. Historical research

Background and importance

- Dihydropyrimidine dehydrogenase (DPD) is the first of enzymes in fluoropyrimidine metabolic pathway.
- Patients with partial or total deficiency in DPD activity can not adequately degrade fluoropyrimidines, increasing the risk of serious toxicity.

Aim and objectives

To assess the rate of deficiency of the metabolizing enzyme DPD in our population and describe the management of these patients in clinical practice.

Material and methods

Patients diagnosed with colorectal cancer receiving capecitabine
↳ January 2020 - August 2021

Variables: Age, gender, Eastern Cooperative Oncology Group (ECOG), regiment treatments and number of cycles, doses reduction, adverse events (AEs), and withdrawal treatments

Polymorphisms studied
rs3918290, rs55886062, rs67376798 and rs56038477

Results

- 35 patients
- 24 men (68.6%) and 11 women (31.4%)
- ECOG 0-1
- Treatment:
  - Oxaliplatin+capecitabine in 74.3%
  - Capecitabine in 25.7%

Mutated allele heterozygote in 11.4% of patients
- rs67376798 (8.6%)
- rs56038477 (2.9%)

50% dose reduction was prescribed initially

Patients without mutation a dose reduction was required in 22.9%

AEs →100% in patients with DPD mutation and 41.9% in patients without DPD mutation
↳ Nausea (25.7%), constipation (14.3%), diarrhoea (11.4%) and vomiting (11.4%)

Conclusion and relevance

- Patients with DPD polymorphisms in our population completed treatment with 50% of the dose.
- AE were more prevalent in DPD mutation group. Determination of variants of DPD can help avoid serious or fatal EA.