Clinical vignette: Clopidogrel overdose: a case report and literature review

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**CASE INFORMATION**

**HOSPITAL COURSE:**

Our patient took 2,250 mg of clopidogrel, a higher dose than either the Kobacay or Clauss cases and almost twice that of a "double loading dose" which can be used prior to angioplasty. Despite this, she was mildly symptomatic with vaginal bleeding and mild hematuria, but within 3 days of observation and conservative management, recovered completely.

**LABS:**

- Platelet function assay was abnormal with prolongation of closure times above 300 sec.
- Platelet count of 245 x 10^9.
- Normal vitals & lab results
- Asymptomatic & No Bleeding
- Overdosed on 1,650 mg clopidogrel

**DISCUSSION:**

Clotpidogrel is a thienopyradine which prevents ADP from binding to the P2Y₁₂ receptor; by doing so, it inhibits platelet activation and therefore, platelet aggregation. This inhibition is irreversible and lasts for the lifespan of platelets (7-10 days). Clopidogrel is a pro-drug with a half-life of 6 hours, but its active metabolite has a half-life of 30 minutes. There is little literature regarding overdose and no published data on using either platelet function assays or aggregation studies in overdose. Only two case reports could be found documenting clopidogrel overdoses.

**CONCLUSIONS:**

- Clopidogrel is very commonly prescribed, ranked amongst the highest of prescription drug sales in 2011.
- Given its popularity, the lack of reported overdoses in the literature is surprising.
- There still remains very little guidance regarding management and monitoring of clopidogrel overdose.

**REFERENCES**

http://www.pavithra.org


CAPRIE Steering Committee. A randomised, blinded, trial of clopidogrel versus aspirin in patients at risk of ischemic events (CAPRIE) Lancet 1996; 348:162-168

Clauss UB, Lohse CM, Catel SB. Platelet & RBC transfusions, if needed


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 Russians Roulette with Clopidogrel

Clotpidogrel Overdose: A Case Report and Literature Review

INTRODUCTION:

- Clopidogrel is an antiplatelet agent commonly prescribed for acute coronary, peripheral vascular disease and prevention of thrombotic events. As it was among the highest of prescription drug sales in the US in 2011, hospitalists should be prepared to encounter and manage overdoses.

- Here we describe an unusual case of a clopidogrel overdose and the discovery that despite its frequent use, the literature is quite barren of case reports and discussion regarding the monitoring and management of potentially fatal hemorrhage.

CASE REPORTS

**Case One:**

Kocabay et al (2006), Turkey

49 yo M, Suicide Attempt
- Overdosed on 1,650 mg clopidogrel
- Asymptomatic & No Bleeding
- Normal vitals & lab results
- Platelet Aggregation Tests over 7 days showed decreased aggregation fractions which recovered over the week.

**Case Two:**

Claus et al (2009), Spain

49 yo F, Suicide Attempt
- Overdosed on 1,975 mg clopidogrel
- HR 101, BP 150/95, RR 22 O2 Sat 96%
- Hgb= 10.4 & Hct= 31
- ST Chest: Pulmonary hemorrhage and hemoptox
- Required thoracentesis (200mL) + transfusions
- Recovered & discharged after 11 days

**HOSPITAL COURSE:**

- On hospital day 3, the patient’s vaginal bleeding resolved, her blood counts were stable, and she was discharged to Psychiatry.

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From what we learned in our case and from the related literature review, we propose that in situations of clotpidogrel overdose, a conservative approach be taken:

- Serial monitoring of blood counts
- Platelet & RBC transfusions, if needed
- Platelet testing/ functional monitoring is probably unnecessary in most cases

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Miguel C. Torre, MD, FAAP. clopidogrel and ticagrelor in the PLATElet inhibition and patient Outcomes (PLATO) trial. Eur Heart J (2011) 32 (23): 2933-2944
