

# Acquired factor VII deficiency secondary to hypovitaminosis K in hyperemesis gravidarum: about a case

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## BACKGROUND

- Hyperemesis gravidarum (HG) is a condition at the extreme end of the pregnancy sickness spectrum, estimated to affect 1–2 % of pregnant women.
- Adverse maternal and fetal outcomes have been seen in women who experience severe symptoms.
- HG can be complicated by dehydration, electrolyte disturbances, poor nutritional intake, weight loss and vitamin deficiencies including vitamin K deficiency which can be responsible for coagulopathies.



## CASE REPORT

- 26 years old female
- G2P1A0
- First trimester of pregnancy
- No noticeable medical history
- **Reason for consultation** : severe and persistent vomiting

- ✓ Normal PT back in 2020 (100%)
- ✓ Factor VII deficiency corrected after mixing study
- ✓ Factor deficiency confirmed by serial dilutions (parallelism assay)

**Acquired factor VII deficiency secondary to hypovitaminosis K in HG**

## Laboratory findings

Analysis	Value	Interpretation
Sodium (mmol/L)	130	↘
Potassium (mmol/L)	3,6	N
Hb (g/dL) /MCV (fl) / MCH (pg)	11 / 79/ 25.1	Microcytic hypochromic anemia
PT (%)	57	↘
kCCT (s) (ratio)	34.5/33 (1.04)	N
Fibrinogen (g/L)	3.3	N
F VII (%)	25	↘

## DISCUSSION

- Diagnosis of HG can be made in the first 16 weeks of pregnancy when a person has nausea and vomiting, at least 1 of which is severe, impairing sufficient intake and affecting tasks of daily living [1].
- Women with HG can develop vitamin K deficiency which is associated with increased risks of various adverse health outcomes in the short and long term for both pregnant women and their offspring (maternal and neonatal coagulopathy-related hemorrhage has been described as well as neonatal vitamin K deficiency embryopathy and grey matter heterotopia) [2].
- Vitamin K deficiency could affect up to 26% of HG patients [2].
- An isolated prolonged PT can be seen at the onset of hypovitaminosis K (with factor VII being first decreased), at the start of vitamin K antagonists treatment and when a constitutional factor VII or an anti-factor VII antibodies are diagnosed [3].

## CONCLUSION

Vitamin K is an indispensable cofactor for coagulation factors II, VII, IX, and X. An insufficient intake during pregnancy may lead to coagulation disorders with factor VII being first affected.

## REFERENCES

- [1] : Jansen and al, Diagnosis and treatment of hyperemesis gravidarum, 2022,
- [2] : Nijsten and al, Hyperemesis gravidarum and vitamin K deficiency: a systematic review, 2022
- [3] : Yang and al, Prothrombin Time, 2022