



# Research Week 2020

## Time to cessation of acute heavy menstrual bleeding in adolescents after high versus standard dose combined oral hormonal pills

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### Keywords

Menstrual Bleeding, Medical Management

### Abstract

#### Objective

While multiple hormonal treatment strategies are effective in decreasing both acute and chronic heavy menstrual bleeding (HMB) in adolescents, there are few comparative studies that evaluate hormone dosages. Because estrogen-dependent endometrial repair mechanisms occur through gene signaling pathways, opposed to direct endometrial effect, we hypothesized that time until resolution of acute HMB in teens is independent of ethinyl-estradiol (EE) dose.

#### Design

We performed a retrospective chart review over a ten-year period (2008-2018) of adolescents aged 9-19 years receiving treatment for acute HMB at our urban tertiary care institution. We used billing codes to identify subjects at encounters with HMB and hemoglobin <12 mg/dl. Our primary outcome was the number of days from initial presentation until patient-reported resolution of acute HMB. We identified the initial medical management, including combined EE-progestin, EE-only, or progestin-only treatments. We then compared the number of days until resolution of acute HMB between subjects grouped by step-down taper dosing versus standard dosing (EE 20-35 mcg/day) of oral combined regimens.

#### Results

We identified 207 subjects based on coding criteria, of whom 90 met study criteria. We excluded subjects for lack of acute HMB (n= 103), pregnancy (n= 18), trauma or other etiologies of bleeding (n=11). Most teens received hormonal therapy (72/90; 80%); only nine were prescribed a progestin-only method. Of those who received oral combined EE-progestin, 32 (50%) received a step-down taper regimen and 32 (50%) received standard dosing. Time to resolution of acute bleeding was available for 57/90 (63.3%) subjects with overall median time to resolution of 2 days (range 0-15), with 75% experiencing cessation

in 4 days. Those prescribed standard dosing of a combined pill experienced resolution of HMB in  $2.3 \pm 2.3$  days (mean  $\pm$  standard deviation), compared to those using a step-down taper regimen ( $4.3 \pm 4.3$  days;  $p=0.07$ ).

### Conclusion

Our chart review suggests that time to resolution of acute HMB is no different between teens who start a variety of dose regimens for menstrual suppression at time of acute presentation with anemia. Current dosing guidelines should be re-evaluated in comparative clinical studies.