



# Oral-Contraceptive Pills to Treat Premenstrual Worsening of Depression

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## BACKGROUND

- Depression breaks through premenstrually despite effective depression treatment
- No empiric therapeutic studies
- Do oral-contraceptive pills (OCP) treat PMS?
  - Suggested by ethinyl estradiol and drospirenone (DRSP/EE, Yasmin®) study
  - What is efficacy of OCP in setting of concurrent antidepressant use?

**Hypothesis:** Stabilization of estradiol and progesterone levels with the OCP Yasmin will treat premenstrual worsening of depression.

## METHODS

### Subjects

- 18–45-year-old women with regular 25–35-day menstrual cycles
- Depressive disorder in remission ? 2 months
- ? 3 months antidepressant use
- One-month prospective tracking of PMS to confirm diagnosis
  - Daily Record of Severity of Problems Scale (DRSP) increase by ? 50% from follicular to luteal phase of menstrual cycle
  - Montgomery-Åsberg Depression Rating Scale (MADRS) follicular <10, luteal >14

### Design

- 2-month treatment with open-label DRSP/EE days 1–21
- Randomized to additional double-blinded EE days 22–28 or placebo with OCP
- Complete daily DRSP and follicular- and luteal-phase MADRS for 2 months

## RESULTS

Figure 1. Subject Flow to Date

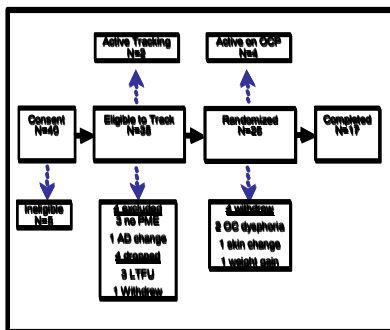


Table 1. Subject Characteristics

Age	37.6 ± 6.7 years	
Cycle Length	28.8 ± 1.7 days	
Race	76% White	12% African-Am
	6% Asian	6% Hispanic
Marital Status	53% single	29% married
	18% divorced/separated	
Education	82% ≥ college	
Employment	88% working	12% unemployed
Depression Diagnosis	82% major depression	6% dysthymia
	12% minor depression	
Antidepressants	94% currently taking an SSR/VSNRI	
PMS History	78% PMS present when not depressed	

## RESULTS (cont.)

- Of 34 eligible, 17 completed, 6 active (Fig. 1)
- **Improvement in MADRS scores (p=0.008, Fig. 3):**
  - Premenstrual scores declined (median 20, interquartile range [IQR] 17–23 to median 4, IQR 3–7)
- **Improvement in DRSP scores (p=0.0004, Fig. 4):**
  - Premenstrual scores declined (median 58, IQR 45.6–80.8, to median 35.3, IQR 26.4–56)
- DRSP/EE well tolerated (Fig. 1)
- No difference between OCP + day 22–28 EE vs. OCP + day 22–28 placebo

Figure 2. MADRS Scores Pre and Post Treatment

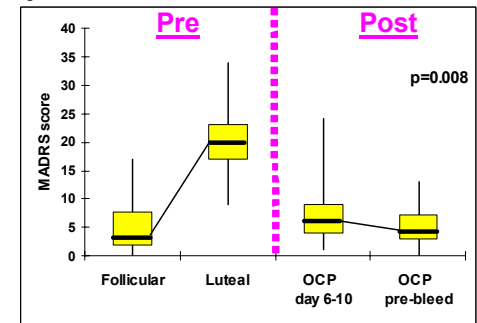
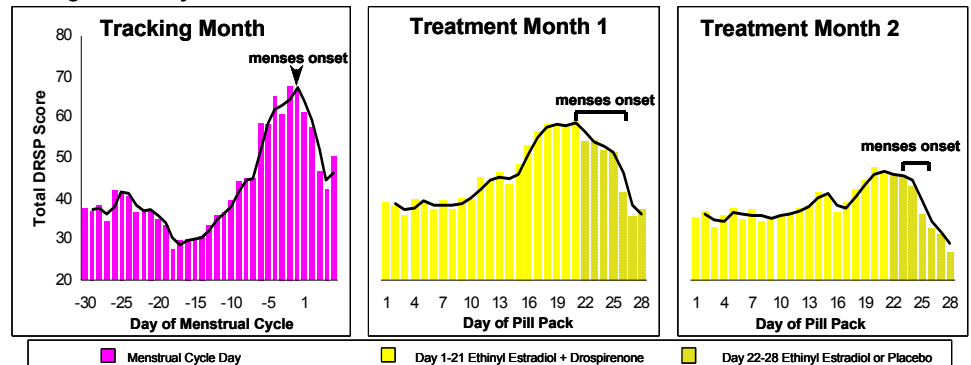


Figure 3. Daily DRSP Scores



## CONCLUSION

- DRSP/EE ± day 22–28 EE improves premenstrual breakthrough of depression
- Elimination of hormonal fluctuation and/or suppression of ovulation treats PMS symptoms in women with treated depression
- Additional stabilization with EE does not appear to confer additional therapeutic advantage
- Additional observations:
  - OC dysphoria rare
  - Self-reported PMS in women with treated depression prospectively confirmed in most subjects