CASE:

13 year old girl has come to the doctor’s office with her mother. Her mother is worried about irregularity in the menstrual cycle. She says that the cycles are infrequent that is occurring every 5 to 6 weeks, she also complains that sometimes the bleeding continues for 10-15 days. Her mother is very anxious and seeks advice.

On history mother explains the doctor that:
Menarche was 6 months back
She is at present in the 12\textsuperscript{th} day of her current menstrual cycle
Secondary sexual characters are well developed

Her blood reports show:
FSH 10.5 IU/L N = (6.42 IU/L)
Estrogen 100 IU/L N = (149.74 IU/L)
LH 1.00 IU/L N = (3.96 IU/L)
Progesterone 0.01 IU/L N = (0.64 IU/L)

Q1. What is DUB?

Q2. What is the differential diagnosis in this patient?

Q3. What other tests should be further carried out?

Q4. What could be the commonest cause of hypothalamic dysfunction in this patient?