

Table S1: Selected studies concerning innovative hormonal medications for female patients with AN and/or hypothalamic amenorrhea.

Author	Year	Patient	Age (Years Range) Sex	Pharmacological Agent	Type of Study	Follow-Up	Outcome Measure
Welt C & al [1]	2004	HA IE+/LW+: 8 HA control: 6	19–33 F	Open-label Recombinant methionyl human leptin (r-metHu- Leptin): 0.08 mg per kilogram per day subcutaneously for two to three months, with 40% of the daily dose given at 8 a.m. and 60% at 8 p.m; third month: 0.2 mg per kilogram per day	Prospective study	4 weeks	Body composition BMD Pelvic ultra-sonography Hormones (Leptin, FSH, LH, Inhibin, FreeT3, T4, TSH, Cortisol, ACTH, IgF1, IgFBP3) Bone markers
Fazeli P.K & al [2]	2010	AN: 21 AN: rhGH+:10, AN-rhGH-: 11	18–45 F	Recombinant human Growth Hormone (rhGH): mean max. daily SC injection dose: 1.4 ± 0.12 mg/d	Double blind RCT	12 weeks	IgF1, N-terminal propeptide of type 1 procollagen, type 1 collagen C-telopeptide, glucose, insuline, leptine, free fatty

Misra M & al [3]	2013	AN: 72 AN-E+: 38 AN-E-: 34	13-18 F	Transdermal 17 $\beta$ Estradiol (100 $\mu$ g twice/week/2.5 mg of medroxyprogesterone acetate J1-J10/month)	Double blind RCT	18 mois	STAIC, EDI II, BSQ-34
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Germain N & al [4]	2017	AN: 19 PHA: 15 SHA: 7	AN: 27.8 PHA:29.3 SHA:25.3 F	Gonadotropin-releasing hormone pulsatile therapy (portable SC infusion pump); 20 µg/90 minutes/4 weeks (induction cycle repeated if no pregnancy)	Retrospective observational monocentric study	Estradiol, LH, FSH, Progesterone, follicular recruitment (ultrasound), ovulation rate, pregnancy (living baby)
Leger J & al [5]	2017	AN: 10 AN-rhGH+: 10	13.3 ± 1.1 (civil age) 10.9 ± 1.7 (bone age) F	Open-label Recombinant human Growth Hormone (rhGH): mean initial daily SC injection dose: 0.040 ± 0.006 mg/kg/d (mean duration of treatment: 3.6 ± 1.4 years)	Retrospective observational monocentric study	Height, HV, weight, pubertal status, serum IgF-I, glucose and glycated hemoglobin: at baseline and at 6-months interval

AN: Anorexia Nervosa; HA: Hypothalamic Amenorrhea; IE+: Increasead Exercice;;LW+: Low Weight; r-metHu- Leptin: recombinant methionyl human leptin; RCT: Randomized Controlled Trial,; PHA: Primary Hypothalamic Amenorrhea; SHA: Secondary Hypothalamic Amenorrhea; HV: Height Velocity; Rec-AN: weight recovered AN; STAIC: Spielberger's State-Trait Anxiety Inventory for Children; EDI II: Eating Disorder Inventory; BSQ-34 : Body Shape Questionnaire

## References

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