Premature ovarian insufficiency (POI), a serious life-changing condition, generally describes a syndrome consisting of amenorrhea, sex steroid deficiency, and elevated levels of gonadotropins in a women before the age of 40. Infertility and psychological stress are common consequences of this entity the prevalence of which is 0.9-3%. This condition is not permanent and irreversible due to the presence of residual oocytes capable of recruitment and fertilisation. However, there is less than a 5% chance of spontaneous conception. Evaluation of secondary amenorrhea in 72 patients under 40s who wished to conceive was performed in 6 years period, testing the following: endocrine aspects of ovarian reserve (FSH, LH, estradiol, inhibin-B, AMH serum levels; other reproductive hormones: prolactin, TSH, fT4), ultrasound markers of ovarian reserve (determination of antral follicle count, ovarian volume and stromal blood flow using 3D Doppler transvaginal ultrasonography), chromosomal studies-karyotype, genetic markers (10 patients), immunological tests for estimation of autoimmune disorders (anti-thyroglobulin, anti-thyroperoxidase, anti-ovarian, anti-adrenal, anti-nuclear, anti-mitochondrial antibodies). Diagnosis of idiopathic POI was confirmed in 64 patients ; in 6 patients there were elevated levels of anti-TGAb, anti-TPOAb and AOAb, without hypothyroidism. Two patients had a premutation in the FMR1 gene with 70/90 trinucleotide repeats at its 5'UTR region. After confirming diagnosis of POI, HRT (sequentially administration of estradiol and norethisterone acetate) was initiated. Micronised oral DHEA, 25mg daily dose, was supplemented in 44 patients. In our study 12 pregnancies (in 17% of POI cases) achieved under HRT of which 10 full term deliveries (six female and four male singletons) and 2 ongoing pregnancies. We concluded that HRT remains the cornerstone of POI management allowing treatment of estrogen deficiency consequences as well as recovery of ovarian function. Estrogen may have a salutary effect on folliculogenesis and conception which is of great importance for women for whom fertility is priority. The ideal HRT for young women with POI poses a clear challenge with realistic possibility in optimising fertility.