**Supplementary data:**

The treatment protocol is described here as follows: each patient received rLH (Luveris®, lutropin alfa, 75 IU, powder and solvent for solution for injection vials, Merck Serono, Darmstadt, Germany) and rFSH (Gonal F®, follitropin alfa, 450 IU/0.75 mL, Merck Serono) in infusion solvent, administered subcutaneously using an insulin pump (Paradigm® 715, pump reservoir 3 mL, catheter 6 mm quickset Medtronic, Boulogne Billancourt, France), as previously described [20]. We injected 450 IU (0.75 mL) of rFSH in the reservoir and added 2 mL of water for injection, to achieve 2.75 mL. In this volume, we have added 450 IU of rLH, so that the reservoir contained 2.75 mL with 450 IU of rFSH and 450 IU of rLH. The initial debit was 2 IU/h corresponding to 0.47 mL/24h or 75 IU/24 h of rFSH and 75 IU/24h of rLH.

In order to administrate 150 IU of rLH and 75 IU of rFSH, we used Gonal F® prefilled pen 300 IU/0.5 mL and rLH 75 IU, as described above. We injected 0.5 mL of Gonal F® in the pump reservoir and added 2 mL water for injection, to achieve 2.5 mL. Then, we added 12 vials of Luveris® corresponding to 900 IU of rLH. The pump reservoir finally contained 300 IU of Gonal F® and 900 IU of Luveris®. We set the debit at 3.2 IU/h, that corresponds to 0.75 mL/24h or 75 IU/24h of rFSH and 150 IU/24h of rLH. Dose titration was initially based on the previously described protocol by Bougnères et al [20] and was adapted according to monthly evaluation of clinical (SPL, testicular growth) and hormonal characteristics. The pump reservoir and the catheter have been changed every 72 hours. Parents were initially trained by our nursing team and therefore, performed this task autonomously at home.