Live birth from intracytoplasmic sperm injection (ICSI) with laser-assisted sperm selection (LAISS) for absolute asthenozoospermia: A case report

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ABSTRACT
Introduction: Absolute asthenozoospermia affects 1 in 5,000 men where the ejaculate has 100% immotile sperm, a condition resulting in poor fertility outcomes even with ICSI. As an alternative to the Hypo-osmotic swelling (HOS) test, laser-assisted immotile sperm selection (LAISS) can be used for the selection of viable sperm. LAISS procedure involves firing a laser pulse to the tip of the sperm tail. Coils sperm tail following laser application indicates sperm viability. LAISS is an easy and efficient way to distinguish between viable and non-viable sperm. Case Description: We report a case of a 34-year-old, Malay gentleman in August 2018 who presented with absolute asthenozoospermia during semen analysis. Viable sperm were observed with the HOS test. His wife, a 33-year-old, Malay woman underwent oocyte pick up in October 2018. During ICSI, viable sperm were chosen via LAISS. Eight oocytes were successfully fertilized out of nineteen mature oocytes. A total of six embryos were frozen. The wife had a frozen embryo transfer (FET) with single day five blastocyst in 2019 and delivered a healthy baby girl in 2020 with a birth weight of 2.89 kg with no complications. The second FET was done in February 2022, and she is currently 16 weeks pregnant. Discussion: ICSI with LAISS allow embryologists to overcome the challenge of selecting viable sperm in the absolute asthenozoospermia cases. Not only simple and efficient, our findings and multiple studies have proven that ICSI with LAISS also results in good perinatal and neonatal outcomes.