Claims

1. Device for inserting of fluids in the oviduct of a sow, making it possible to introduce a fluid with spermatozoids, embryos, or any type of therapeutic solution, and obtain a fluid with or without cells (gametes - spermatozoids and/or ovocytes - and/or embryos) from the interior of the oviduct, comprising a rigid tubular body (1) having a lumen, where the tubular body (1) is introduced by a laparoscopic trocar and making it possible to introduce a flexible tube (3) through its inside, **wherein**:

- the rigid tubular body (1) and the interior flexible tube (3) are coaxial,

- the interior flexible tube (3) is connected at the proximal end to a beveled needle (4) and the beveled needle (4) is retractable into the lumen of the rigid tubular body (1),

- the flexible tube (3) allows the beveled needle (4) to be inserted in the oviduct (12), at an angle of 45 degrees,

- the distal end of the flexible tube (3) is connected by one or more sheaths (7) ((15), (16)) closed by one or more pistons (8), which slide(s) through the inside of the sheath(s) (7) ((15), (16)), and enable(s) the precise introduction of fluids with low volume,

characterized in that the evacuation of the device is done by unlocking the sheath(s) (7) ((15), (16)), pulling back the beveled needle (4) into the lumen of the rigid tubular body (1).

2. Procedure for inserting fluids, with or without cells, in the oviduct of a sow, making it possible to introduce spermatozoids, embryos or any type of solution in the oviduct of the sow, or to obtain gametes (spermatozoids and/or ovocytes), embryos, or solutions from inside the oviduct of a sow, making use of the device described in any of the claim 1, **characterized** in that the beveled injection needle (4) is oriented from the ampoule of the oviduct (5) toward the isthmus of the oviduct (12).

3. Procedure for inserting fluids, with or without cells, in the oviduct of a sow, making it possible to introduce spermatozoids, embryos or solutions in the oviduct of the sow, or to obtain gametes (spermatozoids and/or ovocytes), embryos, or solutions from inside the oviduct of a sow, making use of the device described in any of the claims 1 to 2, **characterized** in that it makes it possible to verify the correct visualization of the inoculation by means of the temporary dilation of the walls of the oviduct (12).

4. Procedure for transfer of embryos in a stage from the zygote to the 4-blastomere stage in the oviduct of a sow, making use of the device described in any of the claims 1 to 3, **characterized** in that it uses a double-sheath system (15), (16), making it possible to introduce separately the fluids contained in each of these sheaths (15), (16).

Claims

1. Device for inserting of fluids in the oviduct of a sow, making it possible to introduce a fluid with spermatozoids, embryos, or any type of therapeutic solution, and obtain a fluid with or without cells (gametes - spermatozoids and/or ovocytes - and/or embryos) from the interior of the oviduct, comprising a rigid tubular body (1) having a lumen, where the tubular body (1) able to be introduced by a laparoscopic trocar and making it possible to introduce a flexible tube (3) through its inside, **wherein**:

- the rigid tubular body (1) and the interior flexible tube (3) are coaxial,

- the interior flexible tube (3) being connected at its distal end to a beveled needle (4) and the beveled needle (4) is retractable into the lumen of the rigid tubular body (1),

- the flexible tube (3) for inserting the beveled needle (4) in the oviduct (12) at an angle of 45 degrees,

- the distal end of the flexible tube (3) is connected by one or more sheaths (7) ((15), (16)) closed by one or more pistons (8), which slide(s) through the inside of the sheath(s) (7) ((15), (16)), and enable(s) the precise introduction of fluids with low volume,

characterized in that the device is able to be removed through retraction of the beveled needle (4) into the lumen of the rigid tubular body.

2. Procedure for inserting fluids, with or without cells, in the oviduct of a sow, making it possible to introduce spermatozoids, embryos or any type of solution in the oviduct of the sow, or to obtain gametes (spermatozoids and/or ovocytes), embryos, or solutions from inside the oviduct of a sow, making use of the device described in any of the claim 1, **characterized** in that the beveled injection needle (4) is oriented from the ampoule of the oviduct (5) toward the isthmus of the oviduct (12).

3. Procedure for inserting fluids, with or without cells, in the oviduct of a sow, making it possible to introduce spermatozoids, embryos or solutions in the oviduct of the sow, or to obtain gametes (spermatozoids and/or ovocytes), embryos, or solutions from inside the oviduct of a sow, as described in claim 2, **characterized** in that it makes it possible to verify the correct visualization of the inoculation by means of the temporary dilation of the walls of the oviduct (12).

4. Procedure for transfer of embryos in a stage from the zygote to the 4-blastomere stage in the oviduct of a sow, as described in claim 3, **characterized** in that it uses a double-sheath system (15), (16), making it possible to introduce separately the fluids contained in each of these sheaths (15), (16).