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FOLLICULAR FLUID-A BIOLOGICAL LIQUID

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Abstract: -

Follicular fluid is a liquid which contain large number of hormones and which fills the follicular cavity that's surrounds the ovum in ovarian follicle. It also contains, lot of substance include protein enzymes, Polysaccharides, and bundle of stimulatory factors. The main hormones this fluid contain are: - FSH, LH, Prolactin, vasopressin, estrogens, Progesterone, and oxytocin. It is also known as liquor follicles. This liquor follicles provide nourishment for developing Oocyte and in embryo developments: Follicular fluid is a dynamic fluid as it is rich in hyaluronic acid.

Keywords: - Progesterone, oxytocin, Fertilization, Maturation, Hormones, Ovulation.

Introduction:

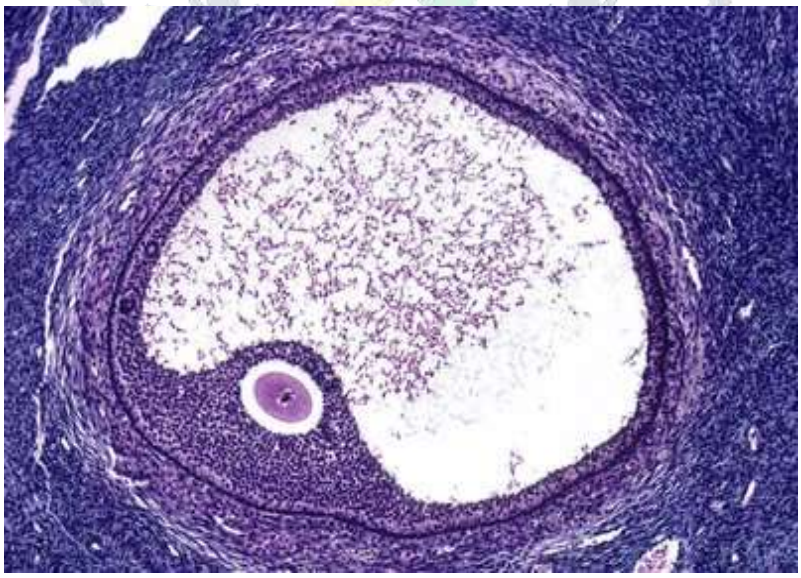

Fig:- Follicular fluid

Follicular fluid is a liquid which composed mainly of hormones, enzymes, reactive oxygen which fills the follicular artrum and act as a important mediator with in cell. The human fluid is a key component for the success of fertilization. This paper mainly aimed to describe and explain the composition characteristics and pharmacological activities of follicular fluid[1]. Follicular fluid is unique in nature. It can be easily available during Oocyte-pickup. This fluid compartments act as a reservoir rich in biomolecules[2]. Follicular fluid is also

able to detect and find out the buffer excessive amount of reactive oxygen species which act as anti-oxidants. Above are follicles fluid control and regulate Follicular growth and Oocyte quality[3]. As Follicular fluid is good source of protein. Follicular maturation is under the control of antioxidants proteins such as catalase and superoxidase. Follicular fluid were mainly involved in inflammatory process and coagulation reaction. Any changes in Oocyte will directly reflect in the Follicular fluid and also give information related to its quality. This fluid for most role is to modulate oocyte and the Follicular maturation. It also help in care of oxidative damage weather in low or high range[4].

Composition of follicular fluid[5]: -

1. Hormones

2. Glucose

3. Protein

4. Triglycerides

5. Enzyme

6. Phosphates/Phosphorus

It is composition also depend upon its growth and development.

Characteristics of Follicular fluid[6]:-

Follicular fluid is very dynamic liquid as it consists lot of essential and important hormones with lot of other essential elements. The hormone characteristics of their fluid are: -

1. As it is complex extra cellular fluid semi viscous and yellow in colour. It is presented and accumulated in the ovarian follicles during the growing and developing phases.

2. It provide Nourishment and development of oocyte. It also regulates external as well as internal environment of oocyte. Follicular fluid help in fertilization and embryo development.

Pharmacological activities of Follicular fluids[7-9]:-

This aim of the study was to explore the different pharmacological activities of Follicular fluid. It shows following pharmacological activities due to various contents presented in them. The various activities are given below: -

1. Antimicrobial activity

2. Anti-oxidant activity

3. Anti-ovarian cancer activity

4. Immune system boosting activity

5. Anti-inflammatory activity

The main pharmacological activity of Follicular fluid include fertilization which is essential in every stage of conception process from communication between gametes to the development of fully viable embryos and help in the occurrence of pregnancy[10]. Along with this Follicular fluid also show antimicrobial activity as the substance presented in Follicular fluid are very helpful in throwing out these. Microbes which can cause infection so its high range of antimicrobial activity. There are anti-oxidant enzymes are presented in the Follicular fluid which are very beneficial against several diseases[11-15]. Follicular fluid contains various hormones and their hormones are very helpful in anti-ovarian cancer activity as there hormones along with

other proteins maintain the nourishment and environment of oocyte as well as ovary very fine and reproductive[16].

Proteins present in the Follicular fluid are very helpful in boosting the immune system. Which is very important to fight various infection and diseases[17]. In the fluid sample we get all the essential activities associated with anti-inflammatory activities. These fluids contain their content which step the microbial bacterial activities. Follicular fluid also helps in the growth development and expression of the proliferating cell nuclear[18]. It also helps in nature fertilization follicular growth oocyte quality sperm capacitation and early embryonic development. Follicular fluid is a good source of protein and can used for non-invasive diagnosis. Follicular fluid provides very important microenvironment for the development of oocytes. It also determines oocyte quality and embryo development[19].

As we discuss that this fluid is very much effective and have lot of properties and activities along with all there pharmacological activities. This fluid plays a role in growth and maturation of Oocyte and follicles. As discuss previously Follicular fluid consists of lot of hormones which are very helpful and necessary in carrying out various activities[20].

Follicular fluid is mainly derived from blood which is flowing through the capillaries (i.e thecal). There capillaries are found rarely in the region of ovarian lining which contain follicles. Follicular fluid is mostly semi viscous and yellowish in appearance. In this follicular and because of Follicular fluid, maturation growth of cells take place around the ovary and it also take part in cells differentiation. Human follicles yielding upto 5-6ml of Follicular fluid[21-22].

During the time of ovulation, Follicular fluid release around the tissues, which mainly surrounds epithelium and fallopian tube. It is mainly produced in the maturing and growing antral follicles with many micro-molecule. Which are very much essential and important in carrying out different activities in the body[23-24].

Conclusion: -

Follicular fluid contains large number of Hormones, Protein, Enzymes, Polysaccharides and a variety of stimulatory and inhibiting factor. Follicular fluid is very much effective in maintaining pregnancy and fertilization. Follicular fluid passes lot of properties characters which are very helpful in curing disorders related to reproductive health and organs. At last, we can conclude that Follicular fluid is a magical fluid with are the essential hormones and enzymes necessary for Oocyte growth and development along with growth hormone also help in preventing various unwanted bacterial or microbial growth with in body. Follicular fluid is a superfluous and easily available fluid and is a source of lot of important minerals and materials, protein and hormones. So it is not wrong to say that Follicular fluid is a magical fluid which mot only responsible for growth and development of Oocyte along with its full form maturation by using the fluid advantages. We can conduct lot of experiments regarding its importance and other known uses. In detail Follicular fluid is dynamic and it is not wrong to call it a super dynamic fluid.

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