

The background of the slide is a light gray gradient, decorated with numerous realistic water droplets of various sizes. Some droplets are at the top, some at the bottom, and some are clustered together. They have highlights and shadows, giving them a three-dimensional appearance.

# ADJUNCTS IN IN-VITRO- FERTILIZATION (IVF) TREATMENT PROTOCOL

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# INTRODUCTION

- IN IN-VITRO FERTILIZATION (IVF) TREATMENT, ADJUNCTS REFER TO ADDITIONAL TREATMENTS OR INTERVENTIONS THAT ARE USED ALONGSIDE THE MAIN IVF PROTOCOL TO POTENTIALLY IMPROVE OUTCOMES.
- SYSTEMATIC AND COCHRANE STUDIES REVEAL EVIDENCE BASED EFFECTIVENESS OF MANY ADJUNCTS USED IN IVF. SOME ARE STILL UNDER CLINICAL TRIALS. ITS INTERESTING TO NOTE THAT NOT ALL ARE RECOMMENDED FOR EVERY PATIENT. IT'S ESSENTIAL TO CONSULT WITH A FERTILITY SPECIALIST TO DETERMINE WHICH, IF ANY, ADJUNCTS ARE APPROPRIATE BASED ON INDIVIDUAL MEDICAL HISTORY, FERTILITY ISSUES, AND SPECIFIC CIRCUMSTANCES. SOME ADJUNCTS MAY ADD SIGNIFICANT COSTS TO THE IVF PROCESS WITHOUT A GUARANTEED IMPROVEMENT IN OUTCOMES.

# OBJECTIVES OF ADJUNCTS IN IVF TREATMENT PROTOCOL

- TO INCREASE THE CHANCES OF FERTILIZATION AND IMPLANTATION
- TO ENHANCE EMBRYO QUALITY
- TO OPTIMIZE THE OVERALL SUCCESS OF THE PROCEDURE. THAT'S, TO OPTIMIZE INCIDENCE OF LIVE BIRTH RATES (LBR)

# SOME ADJUNCTS IN IVF

## 1. PRE-IMPLANTATION GENETIC TESTING (PGT):

PURPOSE: SCREENS EMBRYOS FOR CHROMOSOMAL ABNORMALITIES BEFORE THEY ARE IMPLANTED.

BENEFIT: WITH THE ADVENT OF NEW TECHNOLOGY ALLOWING COMPREHENSIVE CHROMOSOME SCREENING OF DAY 5 BIOPSIED TROPHECTODERM CELLS, PGS IS NOW ACTIVELY MARKETING AS INCREASING IMPLANTATION RATES, AND CONSEQUENTLY DECREASING TIME TO PREGNANCY, RECURRENT MISCARRIAGES AND REPEATED IMPLANTATION FAILURE

## 2. ENDOMETRIAL SCRATCH

**PURPOSE:** A PROCEDURE WHERE THE ENDOMETRIAL LINING IS GENTLY SCRATCHED OR INJURED. **BENEFIT:** THE INJURY MAY IMPROVE THE ENDOMETRIAL RECEPTIVITY TO THE EMBRYO, POTENTIALLY INCREASING THE CHANCES OF IMPLANTATION.

3. **EMBRYO GLUE AND ADHERENCE COMPOUND:** THE USE OF FIBRIN SEALANTS TO REDUCE ECTOPIC PREGNANCY RATE AND INCREASE LBRS WAS FIRST PROPOSED BY FEICHTINGER ET AL. (1990)

**PURPOSE:** A SPECIAL MEDIUM THAT CONTAINS HYALURONAN, A SUBSTANCE BELIEVED TO ASSIST IN THE IMPLANTATION OF THE EMBRYO.

**BENEFIT:** MAY HELP THE EMBRYO ADHERE BETTER TO THE UTERINE LINING, IMPROVING IMPLANTATION RATES.

## 4. INTRALIPID INFUSION

- **PURPOSE:** AN INTRAVENOUS INFUSION OF A FAT EMULSION.
- **BENEFIT:** THOUGHT TO MODULATE THE IMMUNE RESPONSE IN WOMEN WITH RECURRENT IMPLANTATION FAILURE OR AUTOIMMUNE ISSUES, THOUGH EVIDENCE IS MIXED.

## 5. GROWTH HORMONE

- **PURPOSE:** ADMINISTERED TO SOME WOMEN TO POTENTIALLY IMPROVE EGG QUALITY. **BENEFIT:** MAY BENEFIT WOMEN WITH POOR OVARIAN RESPONSE OR THOSE WITH DIMINISHED OVARIAN RESERVE.

## 6. IMMUNOTHERAPY (EXAMPLE; IVIG, PREDNISONE)

**PURPOSE:** USED TO ADDRESS POTENTIAL IMMUNE SYSTEM ISSUES THAT COULD AFFECT EMBRYO IMPLANTATION.

**BENEFIT:** MAY BE USED FOR WOMEN WITH RECURRENT IMPLANTATION FAILURE OR KNOWN IMMUNE ISSUES.

## 7. COENZYME Q10 AND/OR DHEA (DEHYDROEPIANDROSTERONE)

**PURPOSE:** A SUPPLEMENT/HORMONE SUPPLEMENT TAKEN TO POTENTIALLY IMPROVE MITOCHONDRIAL FUNCTION IN THE EGGS.

**BENEFIT:** MAY IMPROVE EGG QUALITY, PARTICULARLY IN OLDER WOMEN OR THOSE WITH DIMINISHED OVARIAN RESERVE.

## OTHER ADJUNCTS IN IVF INCLUDE;

- **VAGINAL/ORAL PROGESTERONE:** SOMETIMES USED TO IMPROVE ENDOMETRIAL THICKNESS IN WOMEN WITH THIN ENDOMETRIAL LINING. MAY IMPROVE UTERINE RECEPTIVITY AND IMPLANTATION CHANCES.
- **PLATELET-RICH PLASMA (PRP) THERAPY:** INJECTED INTO THE OVARIES OR THE ENDOMETRIUM TO REJUVENATE TISSUE. MAY HELP IMPROVE OVARIAN RESERVE OR ENDOMETRIAL RECEPTIVITY.
- **MELATONIN:** AN ANTIOXIDANT SUPPLEMENT THAT MAY IMPROVE SLEEP AND EGG QUALITY. BELIEVED TO ENHANCE EGG QUALITY, PARTICULARLY IN WOMEN UNDERGOING IVF.



# CONCLUSION

QUITE A NUMBER OF ADD-ON'S IN IVF TREATMENT PROTOCOL AVAILS OPTIONS FOR ENHANCING THE SUCCESS RATES OF ASSISTED REPRODUCTIVE TECHNOLOGIES. WHILE MANY ADJUNCTS SHOW POTENTIAL IN IMPROVING OUTCOMES, IT'S IMPORTANT TO APPROACH THEIR USE WITH CAUTION DUE TO THE VARIABILITY IN EVIDENCE SUPPORTING THEIR EFFECTIVENESS. MORE CLINICAL TRIALS ARE NEEDED TO DETERMINE THE SPECIFIC VALUE OF EACH ADD-ON, ENSURING THAT PATIENTS RECEIVE CUSTOMED-BASED TREATMENTS THAT ARE BOTH SAFE AND EFFECTIVE..

**THANKS FOR LISTENING**