Contents

1. An Overview of Intrauterine Insemination 1

Nalini Mahajan, Shivani Singh

- Improvement in Technique 2
- Rationale 2
- Indications 2
- Intrauterine Insemination Prerequisites 3
- Investigations 4
- Follicular Monitoring/Determining the Luteinizing Hormone Surge/Ovulation Trigger 5
- Sperm Preparation 5
- Insemination Procedure 6
- Choice of Catheter 7
- Timing of IUI/Single Versus Double IUI/Number of IUIs 7
- Optimal Number of Intrauterine Inseminations 7
- Combining Intrauterine Insemination with Superovulation or Controlled Ovarian Hyperstimulation 8
- Which is the Drug of Choice for Ovarian Stimulation? 8
- Factors that Determine Intrauterine Insemination Outcome 10

2. Ovarian Stimulation for Intrauterine Insemination 13

Manjunath Swamy, Nalini Mahajan, Shalu Gupta

Oral Drugs 13

Manjunath Swamy

- Oral Drugs Used for Ovulation Induction 13
- Clomiphene Citrate 13
- Tamoxifen Citrate 16
- Letrozole 16
- Anastrozole 17
- Role of Adjuvants 17

Ovulation Induction for IUI: Gonadotropins and Analogs 18

Nalini Mahajan, Shalu Gupta

- Physiology 18
- Stimulation Protocols 19
- Choice of Gonadotropin 20
- Gonadotropin only Protocols 20
- Gonadotropin Combined with Oral Ovulogens 25
- Monitoring during Gonadotropin Stimulation 25
- Determinants of Success 26
- Complications and How to Avoid them 26
- Ovarian Stimulation in Non-PCOS Infertility (Unexplained, Male Factor, Tubal Factor and Endometriosis) 27

- Gonadotropin-Releasing Hormone Analogs in Ovulation Induction and IUI 28
- Gonadotropin-Releasing Hormone Antagonist in Intrauterine Insemination Cycle 30

3. Timing of Trigger and Insemination 36

PM Gopinath

- Timing of Trigger 36
- Choice of Trigger 38
- Timing of Insemination 38

4. Monitoring an IUI Cycle: Ultrasonography and Hormonal Parameters 41

Carlos Iglesias Sánchez, Juan A Garcia-Velasco

- Clinical Use of Intrauterine Insemination 41
- Requirements for Intrauterine Insemination 42
- Indications for Intrauterine Insemination 44
- Sperm Collection and Processing 45
- Timing the Insemination 46
- How can Follicle Size be Monitored? 47
- Intrauterine Insemination in Unstimulated Cycles 50
- Intrauterine Insemination in Stimulated Cycles 50
- What are the Advantages of Intrauterine Insemination Compared with Programmed Coitus? 50
- Which Drugs Should be Used to Stimulate Ovulation? 51
- Is a Multifollicular Response Desirable? 53
- How do We Monitor Follicle Development? 54
- Triggering Ovulation and Insemination 54
- Is a Double Insemination Recommended? 54
- Is it Necessary to use Ultrasound-Guided Intrauterine Insemination? 54
- Luteal Phase Support 55
- Are Gonadotropin-Releasing Hormone Antagonists Useful? 55
- Number of Intrauterine Insemination Cycles 56

5. Natural Cycle Intrauterine Insemination: Is it an Option to Couples with Infertility? 62

Thankam Rama Varma

- Rationale for Intrauterine Insemination Treatment 62
- Semen Preparation 63
- Review of Literature 63
- Intrauterine Insemination in Natural Cycles 64
- Costs and Benefits 65

6. Sperm Preparation for Intrauterine Insemination 68

Sunita Kinger

- Purpose of Sperm Preparation 68
- Sperm Preparation Techniques 69
- Density Gradient Centrifugation versus Swim-up/Sperm Wash 73

7. Insemination: Tips and Tricks 76

Rohit Gutgutia, Arindam Rath

- Technique of Intrauterine Insemination 76
- Discussion 78

8. Donor Sperm Insemination: Do's and Don'ts 84

Richa Jagtap, Manjushri Amol Kothekar

- History 84
- Do's 85
- Don'ts 90
- Optimizing Success Rate 90
- Complications 91
- What Next 91

9. Complications of Ovarian Stimulation and Intrauterine Insemination 93

Antonia Tocino Diaz, Manuel Fernández-Sánchez

- Complications of Ovarian Stimulation 93
- Complications of Intrauterine Insemination Technique 96
- Pregnancy Complications after Intrauterine Insemination 98

10. Ethical and Psychosocial Aspects in Intrauterine Insemination 103

Mirudhubashini Govindarajan, Srisaranya Mithra

- Psychosocial Consequences of Infertility Management 103
- Need for Counseling 104
- Ethical Guidelines as Formulated by Indian Council of Medical Research 105

11. Medicolegal Aspects of Intrauterine Insemination 107

Arati Gupte Shah, Manish Banker, Pravin Patel

- Indications for IUI-Husband and IUI-Donor 107
- Code of Practice 108
- Rights of a Child Born through Intrauterine Insemination 112
- Donor for Intrauterine Insemination 112
- Managing Complications 113

- Other Ethical Issues 113
- Posthumous Intrauterine Insemination 114
- Recent Advances 114

12. Design, Equipment and Personnel Management for Intrauterine Insemination Laboratory 115

Yolanda Minguez, Javier Herrero Zapata Irene Rubio Palacios

- Laboratory Design 116
- Equipment 117
- Consumables and Media 118
- Personnel Management 131
- Laboratory Safety and Infection Control 131
- Record Maintenance 133
- Quality Control 133

Index *135*