

1. INTRODUCTION TO FETAL MEDICINE

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THE FETUS AS A PATIENT

New medical discipline:

- Result of ever-more accurate prenatal diagnosis
- Increasing knowledge of normal and abnormal fetal development
- Increasingly vague distinction between in utero fetus and ‘ex utero’ premature infant:

Premature infant (23 weeks gestation to term) cared for by

- Neonatologist
- Geneticist
- Cardiologist
- Surgical specialists
- Pulmonary, renal, specialists

Fetus (16 weeks gestation to term) may/should benefit from same medical expertise

FETAL MEDICINE VS OBSTETRICS

Definitions:

- Obstetrics:
 - Historically: little known about fetus, hence mother and pregnancy central
- Maternal-Fetal Medicine/Perinatology
 - Treatment of “high-risk pregnancies”
- Fetal medicine
 - Distinction from above specialties still vague
 - Principle: fetus-directed, rather than pregnancy-directed approach
 - Useful definition: multidisciplinary care of the fetus (analogy with newborn, infant)
 - Covers only small number of “high-risk pregnancies”

JUSTIFICATION FOR FETAL MEDICINE AS A SEPARATE DISCIPLINE

Single physician approach (maternal-fetal medicine specialist, perinatologist):

- works well for “simple” conditions, or conditions *not* requiring multiple consultations
- is difficult for more complex conditions:
 - **Requiring more than one consultant**
 - Conflicting information from different sources → confused MD, parents
 - Consultant informs parents, but not referring physician
 - **Requiring pre- or perinatal treatment/intervention**
 - Lack of coordination for pre- and perinatal management
 - Lack of continuity (postnatal follow-up by pediatrician)
 - **Requiring specific expertise**
 - Difficult for any one specialist to remain up-to-date in all specialties

MULTIDISCIPLINARY APPROACH: THE MADAM CONCEPT

1. Most pregnancies require only **obstetrical follow-up**
2. Small percentage: “High-risk pregnancies”
 - **Maternal-Fetal Medicine specialist (MFM)**
 - Directs management/treatment of pregnancy/fetus
 - May consult with single specialist (urologist, surgeon, geneticist)
 - Responsible for transition to neonate (coordination with neonatologist)
3. A fraction of these require a **multidisciplinary approach**, if:
 - More than one specialty (in addition to MFM) is involved with the care of the fetus
 - Consultation will likely lead to alteration in fetal management (intervention)
 - Consultation will likely lead to alteration in protocol or policy (for subsequent cases)

Multidisciplinary Antenatal Diagnosis And Management (MADAM) conference:

- Unique to Brown, but many similar models exist
- Acts as a “tumor board”
- Reviews case, reviews pertinent literature, consults with local experts
- Forms consensus, suggests intervention/specific management
- Parents and referring MD receive *unified* opinion
- Ethics board for novel interventions (e.g. fetal surgery – see chapter 12)