myometrium, adnexa and cervical canal and finally fetal anatomy. Examination of fetal anatomy is not an option, but should be a standard. Absence of a normal system or organ, presence of an extra structure, herniation from a defect, dilation behind an obstruction, abnormal biometry, lack of fetal movements are the alarming signs. In addition, soft markers of aneuploidy should be investigated in the second trimester of pregnancy.
Finally, screening programs which are predictive and highly specific may reassure some parents falsely or make them anxious leading to invasive procedures. Such programs may also be subject of malpractice. Cost effectiveness and educational problems for these screening programs are still subjects of debate.

L19

FETAL INTERVENTIONS

Cihat Şen, *Department of Perinatology - OB/GYN, Cerrahpaşa Medical School, University of Istanbul, Turkey*

Invasive fetal diagnosis includes techniques such as amniocentesis, chorionic villus sampling, fetal blood sampling, fetal tissue sampling, embryoscopy and fetoscopy. The specimens are obtained directly from the fetus or indirectly from an associated fetal structure or product by needle or biopsy technique, allowing assessment of specific fetal characteristics.
Amniocentesis is a second trimester prenatal diagnostic procedure usually performed after 14 weeks gestation. The indications for amniocentesis include advanced maternal age, history of a previous child with a chromosomal abnormality, parental chromosomal translocations, history of specific biochemical or molecular genetic diseases, fetal infections. The technique is performed under ultrasound guidance with a 20-22 gauge needle and amniotic fluid is removed 1 ml per week. The risks of amniocentesis include fetal loss about 1 in 200, leakage and fetal injury (1). Some centers performs early amniocentesis at 10-14 weeks of gestation, but the risk of fetal loss is high compared to chronic villus sampling at the same gestational age. The karyotyping results can result in 15-20 days. Chronic villus sampling can be performed after 10 weeks of gestation. Indications are same as amniocentesis. Single or double needle technique can be used to make needle biopsy. After sampling it has to be done separation from the maternal cells and clots. It has same fetal loss rate compared to second-trimester amniocentesis and disadvantages such as mosaicism, maternal contamination and takes time for separation (2). It's advantages are early procedure and early direct results obtained. If chorionic villus sampling is performed before 10 weeks of gestation there is a high risk for limb reduction(3). Amniocentesis or chorionic villus sampling can be preferred depends on which specific disease studied on. Fetal blood sampling can be utilized to obtain fetal blood from the umbilical cord usually from 18 weeks gestation until term. Fetal karyotyping by fetal blood sampling may be indicative when congenital malformations or early IUGR are identified by ultrasound or when the pregnant with high risk for chromosomal abnormality comes to hospital at late stage. Evaluation of fetal status regarding fetal infections, hematological abnormalities, maternal platelet disorders, inborn errors of metabolism and fetal well-being can be performed (4). Karyotyping results can be obtained within few days. Complications rate is nearly same as compared to amniocentesis or chorionic villus sampling in experienced hand.
Other fetal tissue sampling include fetal skin, liver and fluid collections in fetal urinary tract, thorax or cystic hygroma. Techniques are similar to free-hand ultrasound guided techniques like amniocentesis and fetal blood sampling. Needle insertion into specific fetal areas requires appropriate fetal positioning. Risks and complications are similar to those quoted for fetal blood sampling.
Invasive Fetal Therapy includes amnio-infusion, amnio-drainage, laser ablation in twin to twin transfusion syndrome, fetal fluid drainage such as urine, ascites, hydrothorax, hydronephrosis, fetal shunting procedures, fetoscopic catheterisation, intrauterine transfusion. In severe erythroblastosis fetalis intrauterine washed red cell is carried out to prevent fetal anemia and it's complications. It can be performed by either intraperitoneal or intravascular route. Intravascular transfusion is more effective than intraperitoenal route (5). In case of unilateral or bilateral pleural effusion the shunting is necessary to prevent the fetus from the lung hypoplasia and other complications until term. Vesico-amniotic shunt is another shunting procedure in the case with Posterior-Urethral Valve syndrome as early as possible before nephrogenic

stage of fetal kidneys if there is severe enough bladder outlet obstruction. Sometimes it will be necessary to put a shunt into pelvis of the kidney in case of severe bilateral or unilateral hydronephrosis due to uretero-pelvic junction obstruction or reflux (6). Amnio-drainage and laser coagulation can be performed in twin to twin transfusion syndrome. Also amnio-infusion can be instilated into amniotic cavity in case of severe oligohydramnios to delineate and easily visualise the fetus during ultrasound examination, and sometimes to replace the amniotic fluid. It should be kept in mind that there is a complication rate about 3-5% with invasive fetal therapy techniques. These procedures should be performed in experience hands and centers.

REFERENCES

1. Tabor A, Philip J, Madesn M, Bang J, Obel EB, Norgaard-Pedersen B. Randomised controlled trial of genetic amniocentesis in 4606 low-risk women. Lancet, ii:220, 1968
2. Danish study: Smidt-Jensen S, Permin M, Philip J, Lundsteen C, Zachary JM, Fowler SE, Gruning K. Randomised comparison of amniocentesis and transabdominal and transcervical chorionic villus sampling. Lancet, 340:1238, 1992
3. Froster-Iskenius UG, Baird PA. Libm reduction defects in over one million consecutive livebirths. Teratology, 39:127, 1989
4. Millar DS, Davis LR, Rodeck CH, Nicolaides KH, Mibashan RS. Normal blood cells values in the early mid-trimester fetus. Prenat Diagn, 5:367, 1985
5. Manning FA. Cordocentesisi: Clinical considerations. In: Harman CR ed. Invasive fetal testing and Therapy. Boston: Blackwell Scientific Publications, 3:49, 1995
6. Manning FA. The fetus with obstructive uropathy: the Fetal Surgery registry. In: Harrison MR, Golbus MS, Filly FA, eds. The Unborn Patient. 2nd ed. Philadelphia: WB Saunders, 32: 394, 1990

L20

MEDICOLEGAL ASPECTS OF OBSTETRICS

Oğuz Polat, *Director, State Institute of Forensic Medicine of Ministry of Justice of Turkey*

The main subject in medicolegal aspect of obstetrics is the medical malpractices. Medical malpractices is a growing problem in many countries including Turkey.
Usually Obstetrics 's core business is aphysiological process which usually ends successfully without medical intervention. When it does not medically , emotionally and financially consequences can be disastrous. The risks involved in pregnancy and childbirth have changed over the years and are continually being reassessed.
At Turkey there are malpractices like in other countries including obstetrics. Between years 1990-2000 theer were 103 cases which State Institute of Forensic medicine of Ministry of Justice of Turkey has given opinion as expert witness. 69 % of the cases were performed by Obstetrics and 22 % of them were performed by widwives.
In this paper I will try to give some details about legislations, procedures and situation of malpractice cases in Turkey.

L22

NEW TECHNOLOGIES FOR INTRAPARTUM MONITORING

G. C. Di Renzo, R. Luzietti, G. Clerici, A. M Cutuli, M. M Mignosa, *Centre of Reproductive and Perinatal Medicine, University of Perugia, Perugia, Italy*

The poor specificity of cardiotocography has stimulated the research on complementary fetal intrapartum monitoring techniques. In addition to analysis of fetal heart rate variation, there are three different approaches to evaluate fetal response to labour.
The first is represented by the assessment of intrapartum fetal acid-base status with the use of fetal blo-