

AHMEDABAD OBSTETRICS AND GYNAECOLOGICAL SOCIETY

# Nirvana

JULY 2022 I VOLUME 4

Theme: Healthy Woman - Healthy Nation

**Motto:** Ethics Compassion Commitment

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#### **AVAILABLE SERVICES**

Female / Male Infertility Clinic High-End Sonography, Colour Doppler and 4-D Sonography Centre
Advanced Gynaec Endoscopy Centre IUI - IVF - ICSI - PGS - PGD Donor Sperm - Donor Egg - Donor Embryo
PESA / TESA / Micro TESE for Azoospermia NABL Certified Endopath Laboratory Egg Freezing



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## TEAM AOGS MESSAGE





Dr. Kamini Patel President

"If you want to see the brave, look at those who forgive"

Dr. Nita Thakre Hon. Secretary

- Bhagavad Gita

Forgiveness is a measure that maintains, manages and soothes the relation in a way that no one can break. We being the doctors take oath to help and treat patients from the very first day of our services. All these years of services in the field of health care, I have noticed that modesty, honesty, ethics and forgiveness bring you a long way.

AOGS is one such association which not only impart knowledge in the budding gynaecologist but also helps in team building and a unity in doctors. We aim to bring the community closer day by day to make this city a better place for the treatment in Gynaecology, Obstetrics and Infertility. This is our small step to make the world a better place.

AOGS team had taken up the initiative of <u>Thermal breast cancer screening</u>. It was a huge hit with many female doctors attending along with their mothers and relatives. This initiative has helped in incorporating the early breast cancer screening in multiple screening for the females above the age of 32 or 33. This has created a revolution and has brought us a step closer in detecting early-stage breast cancers. This was a positive event as this test does not include any harmful radiations.

"Nurses are the heart of the health care." One more positive thing that was started with the AOGS team was the education or training imparted to the nursing staff. Last Bulletin and this edition have some beautiful articles that could be used to teach our nursing staff.

With days passing of our tenure, we promise to deliver the best of the articles, event and conferences.



#### **PAST PROGRAMME**

## Silver Jubilee Oration: Prof. Dr Sabaratnam Arulkumaran - 18th July 2022



Breast Cancer Screening: 10th August 2022 I 55 Thermal Screened Done





## **AOGS - HAR GHAR TIRANGA**





AHMEDABAD OBSTETRICS & GYNAECOLOGICAL SOCIETY



## DIWALI MEDITERIAN CRUISE TOUR

**DEPARTURE DATE: 22th October 2022** 

## **USD 1545**

(Approx 1,23,000 Rupees) 05% GST & 05% TCS EXTRA

NOTE: WE ARE NOT HOLDING ANY HOTELS, TRAINS OR INTERNAL FLIGHTS YET .
RATES CAN BE CHANGE AT THE TIME OF BOOKING

#### INCLUDES:

All airport & port transfers in Venice

#### **MEALS:**

- 2 breakfasts
- 2 Dinners
- Cruise meals as per their policy

#### **Excluded:**

Airfate actual as per avaibility at the time of booking

#### Note:

Visa date is availabel in Mumbai centre only around 30th Sep.

#### QUOTE FOR NORWEGIAN CRUISE LINE WITH HOTEL 09 NIGHTS / 10 DAYS

#### **Sunday**

Venice (Trieste), Italy

#### **Monday**

Kotor, Montenegro

#### **Tuesday**

Corfum, Greece

#### Wednesday

Santorini, Greece

#### **Thursday**

Mykonos, Greece

#### **Friday**

Argostoli, Kefalonia, Greece

#### Saturday

**Dubrovnik**, Croatia

#### Sunday

Venice (Trieste), Italy

## For More Details on This Trip Can Contact

Dr. Nisarg Dharaiya on 7567200111 or Dr. Kamini Patel on 9426048748





## **AOGS RUSH TEAM VOLUME -2**

#### **Practice Checklist, Follow Protocols for Safety.**

"We are safe, when our patients are safe. Our patients are safe when we are safe".

#### - Dr Alpesh Gandhi

(Immediate Past President, FOGSI)

#### Introduction:

PATIENT PROFILE: Patient name:

Date of admission:

Husband's name:

Timing of last solid food taken noted

History of any multiple/ unclean examinations or drug intervention

In this issue, we include certain checklists that we feel are essential for clinicians in day to day practice. Checklists used in the medical setting can promote process improvement and increase patient safety. Implementing a formalized process reduces errors caused by lack of information and inconsistent procedures. Checklists have improved processes for hospital discharges and patient transfers as well as for patient care in operating rooms and ICU's. Along with improving patient safety, checklists create a greater sense of confidence that the process is completed accurately and thoroughly. Checklists can have a significant positive impact on health outcomes, including reducing mortality, complications, injuries and other patient harm. Medicolegally too, they help to protect doctors from accusations of negligence or oversight.

We recommend that these checklists become a part of every clinician's routine daily practice. This will make sure that emergency drugs and other materials are kept on hand at all times, that staff as well as doctors are updated with regards to emergency protocols, and will reduce panic in actual emergency situations. In case a physician requires the help of the RUSH team, all necessary materials as well as paperwork will be available promptly, and will make their intervention a lot more effective. Finally, if these checklists are rigorously followed, it may avoid the requirement of the RUSH team completely.

### **FOGSI CHECKLIST: VAGINAL DELIVERY**

Blood group:

Date of Birth:

Registration number:

Age:

□ Yes □ No

□ Yes □ No

Contact number	ID proof:	
Weight:	Height:	
Obstetrics Score: G P L A	Last menstrual period:	
Expected date of delivery:	Period of gestation:	
Corrected expected date of delivery:	Doctor's name:	
Nurse's name:	History of allergy:	
Booked/Unbooked:		
нізто	RY AND CLINICAL FEATURES	
Antenatal records reviewed		□ Yes □ No
Any associated high risk factors documented		□ Yes □ No
Tetanus immunization done		□ Yes □ No
Pain abdomen (Labor pain)		□ Yes □ No
If present, increasing in frequency and duration	/regular intervals	
Decreased fetal movements		□ Yes □ No
Leakage per vaginum		□ Yes □ No
(mention duration of leakage : hrs min		
If leaking PV ,□ Blood stained □ Meconium st	ained □ Other	

#### AOGS TIMES VOLUME: 4 | JULY 22

EXAMINATION					
Vitals:         Temperature □         Pulse □         BP □         RR □         Oxygen saturation □	1				
General examination:					
Pallor □ Cyanosis □ Clubbing □ Icterus □ Pedal edema □					
Systemic examination:					
	repitations $\square$				
CNS:  Reflexes	•				
LOCAL EXAMINATION					
Abdominal examination done	□ Yes □ No				
Presence of scar ,if any noted	□ Yes □ No				
Bleeding PV present	□ Yes □ No				
Leaking PV present	□ Yes □ No				
Per vaginal examination done	□ Yes □ No				
If leaking PV, □ Blood stained □ Meconium stained □ Other	□ Yes □ No				
Cervical dilatation documented	□ Yes □ No				
Effacement documented	□ Yes □ No				
Station documented	□ Yes □ No				
Membranes intact	□ Yes □ No				
Pelvis seems adequate	□ Yes □ No				
Moulding present	□ Yes □ No				
Caput succedaneum formed	□ Yes □ No				
MANAGEMENT  INVESTIGATIONS BONE	N				
INVESTIGATIONS DONE  Complete hemogram (Recent)	☐ Yes ☐ No				
Urine routine and microscopy (less than 1 week old)	□ Yes □ No				
Blood grouping and cross matching	□ Yes □ No				
Blood arranged if indicated	□ Yes □ No				
HIV/ HbS Ag/VDRL (if not done before)	□ Yes □ No				
FIRST STAGE OF LABOR					
Referral needed (Follow referral checklist)	□ Yes □ No				
In case of eclampsia , 1 <sup>st</sup> dose of MgSO4 given before referring	□ Yes □ No				
If not required admission documented	□ Yes □ No				
Informed counselling done	□ Yes □ No				
Partograph maintained	□ Yes □ No				
Any indication for antibiotics checked	□ Yes □ No				
Special therapy if needed (MgSo4, antihypertensives, rescue steroid)	□ Yes □ No				
Tocolytics given ( If yes, Reason)	□ Yes □ No				
Delivery kit available	□ Yes □ No				
PPH kit available	□ Yes □ No				
Ambulation ensured	□ Yes □ No				
Hydration ensured	□ Yes □ No				
Relatives kept available	□ Yes □ No				
Ensured the supplies for fetal resuscitation available	□ Yes □ No				
Blood arranged if indicated	□ Yes □ No				
SECOND STAGE OF LABOR					
Encouraged to bear down	□ Yes □ No				
Perineal support given	□ Yes □ No				
Episiotomy documented if given	□ Yes □ No				
Instrumental delivery documented if done	□ Yes □ No				
Informed Consent for instrumental delivery taken	□ Yes □ No				
Date and time of delivery noted	□ Yes □ No				
Baby details (weight, APGAR, Sex) noted	□ Yes □ No				
Second stage problems (Shoulder dystocia- Erb's palsy) documented	□ Yes □ No				
Obvious Conngenital malformations if any documented	□ Yes □ No				

#### AOGS TIMES VOLUME: 4 I JULY 22

	AGE OF LABOR	
Placenta separated spontaneously		□ Yes □ No
Active management of third stage of labor done	□ Yes □ No	
(controlled cord traction, oxytocin, delayed cord clamp Placental completeness checked	ing)	□ Yes □ No
Maternal vitals monitored		□ Yes □ No
Post partum hemorrhage if occurreddocumented		□ Yes □ No
If yes, management documented		□ Yes □ No
Skin to skin contact initiated at the earliest		□ Yes □ No
Breast feeding initiated		□ Yes □ No
	FACE OF LABOR	
Fourth stage protocol including vitals, Uterus details an	d vaginal bleeding	checked every 15
minutes for 1 hour	a vaginai bieeding	checked every 13
POST	DELIVERY	
Disinfection of all instruments in Hypochlorite done		□ Yes □ No
Patients condition at time of transfer to ward noted		□ Yes □ No
Contraception discussed		□ Yes □ No
Date:	Signat	ure
	Name	
	0504554	N CECTION
FOGSI CHECKLIST	: CESAREAI	N SECTION
PATIENT PROFILE:		
Patient name:	Age:	Date of Birth:
Husband's name:Contact numbers: Registration number:	Date and time o	of admission.
ID proof:	Date and time t	or autilission.
Blood group:Hemoglobin level:		
Obstetric score: GPLA	Cymanta dalata	af alalissams
Last menstrual period: Period of gestation:	Expected date of Weight:	or delivery:
Doctor's name:	Nurse's name:	
Anesthetist's name:	Surgical Assista	nt's name:
Date and time of CS:		
Allergies, if any: Diagnosis:		
DETERMINE:		
Preterm		□ Yes □ No
High risk If yes, high risk factors documented		☐ Yes ☐ No ☐ Yes ☐ No
Indication for CS documented		□ Yes □ No
maleation for es adeamentea		
Type of CS documented		□ Elective □ Emergency
Modified Robson's scoring(*Appendix 1) done		□ Yes □ No
PRE-OP PREPARATION:		
Review of antenatal record and investigations dor	e (Including	□ Yes □ No
previous intraoperative notes, if available)		
Review of medications being taken by patient don	е	□ Yes □ No
Counselling done (Indication of surgery, risks and	complications, hi	gh □ Yes □ No
risk factors, blood transfusion, contraception, neo		
others as per case)		
Consents for CS taken		□ Yes □ No
High risk consent, if any		□ Yes □ No
Intraoperative contraceptive planning, if any		□ Yes □ No
Blood grouping and cross matching sent		□ Yes □ No

### AOGS TIMES VOLUME : 4 | JULY 22

Arranged blood and blood products	□ Yes	□ No
Additional investigations done if any as per case	□ Yes	□ No
Pediatricianinformed	□ Yes	□ No
Anesthesia assessment	□ Yes	□ No
Informed OT team	□ Yes	□ No
Informed consultant/assistant	□ Yes	□ No
Part preparation as per local protocol done	□ Yes	□ No
Steroid cover (If preterm) done	□ Yes	□ No
MgSo4 (If <32 weeks for neuroprotection) given	□ Yes	□ No
FHR monitoring done	□ Yes	□ No
NPO for 8 hours, if no (in case of emergency) documented and necessary precautions taken	□ Yes	□No
IV cannula secured (16/18G)	□ Yes	□ No
Antibiotic prophylaxis given(As per local protocol)	□ Yes	□ No
Tetanus immunization done	□ Yes	□ No
Antacid and antiemetic treatment given	□ Yes	□ No
Checked FHS prior to shifting to OT	□ Yes	□ No
New born corner in OT made ready	□ Yes	□ No
Type of anesthesia (SA/EA/CSE/GA) planned, documented	□ Yes	□ No
Boyle's apparatus / gases checked	□ Yes	□ No
Blood collectionvials availability checked	□ Yes	□ No
Relatives kept available	□ Yes	□ No
INTRA-OP PREPARATION:		
FHR checked on OT table	□ Yes	□No
Vitals of patient checked on table	□ Yes	□ No
Foley's catheterization done	□ Yes	□No
Sterile linen, mops and instrument check done	□ Yes	□No
Skin Incision type documented	□ Yes	□No
Uterine incision type documented	□ Yes	□ No
Adhesions documented	□ Yes	□ No
Liquor (Quantity and color documented)	□ Yes	□ No
Baby extraction details documented	□ Yes	□ No
Time of baby delivery documented	□ Yes	□ No
Immediate newborn care provided and documented	□ Yes	□ No
Placenta (delivery times, location, size, calcifications) documented	□ Yes	□ No
Inj. Oxytocin 10IU slow iv/im given after delivery of baby	□ Yes	□ No
Other findings, if yes documented	□ Yes	□ No

#### AOGS TIMES VOLUME: 4 I JULY 22

Types of cutures used at all steps documented	□ Yes	□ No
Types of sutures used at all steps documented  Method of uterine suturing documented		
Status of uterine surface and cavity, tubes and ovaries documented	☐ Single☐☐ Yes	□ No
Any other finding such as fibroids, ovarian cyst documented	□ Yes	□ No
UV fold if sutured, documented	□ Yes	□ No
Parietal peritoneum if sutured, documented	□ Yes	□ No
Mop and instrument counts documented (*Appendix2)	□ Yes	□ No
Baby details (weight, sex, APGAR) documented	□ Yes	□ No
	□ Yes	
Drains (abdominal/subcutaneous) inserted		□ No
If yes, documented	□ Yes	□ No
Blood loss documented	□ Yes	□ No
Input/ output documented	□ Yes	□ No
Vitals at time of shifting out of OT documented	□ Yes	□ No
POST- OPERATIVE CHECKLIST:	T	
NPO minimum of 6 hours	□ Yes	□ No
BP / TPR checked every 15 minutes for 1 hour then every ½ hourly for 2 hour and then every 2 hourly for 24 hours	□ Yes	□ No
O2 given, if indicated	□ Yes	□ No
In high risk patients, continuous monitoring done	□ Yes	□ No
Post Spinal – No pillow / GA – Propped up given	□ Yes	□ No
Ensured IV-line patent	□ Yes	□No
IV fluid with 10 units Oxytocin in first pint running at 100ml/hour followed by plain drip (Duration as per case) given	□ Yes	□No
IV antibiotics given (As per local protocol)	□ Yes	□No
Analgesics given	□ Yes	□ No
Input output chart maintained	□ Yes	□ No
Sterile vulval Pad provided	□ Yes	□ No
Watched for Amount of bleeding PV	□ Yes	□ No
Catheter care done	□ Yes	□ No
Lactation & Breast feeding established	□ Yes	□No
Specific care, if any documented	□ Yes	□No
Early ambulation done	□ Yes	□No
Date: Sign	ature	

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Name:

#### AOGS TIMES VOLUME: 4 | JULY 22

#### APPENDIX 1:

Table-1; the modified Rotson criteria.

Group	Description
1	Nullipara, singleton cephalic, ≥ 37 weeks, spontaneous labour
2	Nullipara, singleton cephalic, ≥ 37 weeks A: Induced B: Caesarean section before labour
3	Multipara, singleton cephalic, ≥ 37 weeks, spontaneous labour
4	Multipara, singleton cephalic, ≥ 37 weeks A: Induced B: Caesarean section before labour
5	Previous Caesarean section, singleton cephalic, ≥ 37 weeks  A. Spontaneous labour  B. Induced labour  C. Caesarean section before labour
6	All nulliparous breeches A. Spontaneous labour B. Induced labour C. Caesarean section before labour
7	All multiparous breeches (including previous Caesarean section)  A. Spontaneous labour  B. Induced labour  C. Caesarean section before labour
8	All multiple pregnancies A. Spontaneous labour B. Induced labour C. Caesarean section before labour
9	All abnormal lies (including previous Caesarean section but excluding breech)  A. Spontaneous labour  B. Induced labour  C. Caesarean section before labour
10	All singleton cephalic, ≤ 36 weeks (including previous Caesarean section)  A. Spontaneous labour  B. Induced labour  C. Caesarean section before labour

#### **APPENDIX 2:Operative Instruments & Swab Check Sheet**

No.	o. Instrument		Post -
		surgical	surgica
1	Gauze pieces	5	5
2	Sponge (Preferably radio opaque)	5	5
3	B.P Handles with surgical blade no. 21	1	1
4	Suction catheter No-10	1	1
5	Suction set	1	1
6	Ellis forceps: 6 inches	6	6
7	Ellis forceps: 8 inches	6	6
8	Artery: Curved: 6 inches	6	6
9	Sponge holding forceps	2	2
10	Dissecting toothed forceps: 6 inches	1	1
11	Dissecting non-toothed forceps: 6 inches	1	1
12	Sutures (Vicryl no.1 and 1.0 and chromic catgut no.1 and 1.0)	4	
	(Vicryl Preferably 180 cms with two needles of 40 & 50 mm.)		
13	Needle holder: 6 inches	1	1
14	Needle holder: 8 inches	1	1
15	Scissors: Straight	1	1
16	Scissors: Tissue cutting –fine	1	1
17	Retractor (Doyens)	1	1
18	Outlet forceps	1	1
19	Vacuum cup	1	1
20	Cord clamp (long curved artery)	2	2
21	Lange backTissue retractor	1	1
22	Cautery (Monopolar) set (Cautery tip and wire) (Optional)	1	1
23	Green armytage (If available)	2	2
24	Babcock 6 inches	2	2
25	Long straight needle	1	1
26	Cord blood collection kit (Plain, EDTA)	1	

## **FOGSI CHECKLIST: PPH KIT**

#### **VENOUS ACCESS EQUIPMENTS**

EQUIPM	AVAILABILITY	EQUIPMENT	AVAILABILITY
ENT			
20 G Cannula (pink) (2)		3-way cannula (1)	
18 G Cannula (green) (2)		Tourniquet (1)	
16 G Cannula (grey) (2)		Fixation tape(1)	
OXYGEN CYLINDER		·	·

Checked cylinder availability	
Checked cylinder fullness	
Expiry date checked	

#### **INTRAVENOUS FLUIDS**

ITEMS	AVAILABILITY
Ringer lactate (1 unit)	
Normal Saline (100 ml) (1)	
Distilled water (10 ml) (5)	
Colloid Solution (1 unit)	
IV set (2)	
DISPOSABLE SYRINGES	NEEDLES
10 CC (4)	20G (2)
5 CC (5) 🗆	22G (2)
2 CC (4)□	24G (2)

#### AOGS TIMES VOLUME: 4 I JULY 22

DRUGS			
Inj.Oxytocin(10 amps)		Inj. Atropine, Adrenaline, furosemide (2 each)	
Inj.Methylergometrine(2 amps)		Inj. Phenergan (1 ampule)	
Inj. Prostadin (15Methyl PGF2α)(2 amps)		Inj. Hydrocortisone(1 vial)	
Inj. Carbetocin (2 amp)		Inj. Tranexamic acid	
Misoprostol 600μg (1 Tab)		(2Amps)	
OTHER EQUIPMENT			
Cotton swabs		Foley's Catheter (No 16)	
Spirit swab bottle (1)		Urine bag	
Antiseptic solution (1)		Surgical gloves (suitable size) (5)	
Blood sample collection vials (Plain/EDTA/Fluoride)		Blood transfusion set	
(5 each)			
Suture material Vicryl no 1		Suction catheter (1)	
Vicryl no 1, 0			
Vicryl no 2,0			
Chromic Catgut no. 1			
Stethoscope		Checklist and patient monitoring	
Long straight needle		chart (1)	
Blood pressure apparatus (1)		PPE kit/N95 mask(2)	
Pair of scissors		Long elbow length Sterile gloves	
		(1 pair)	
OTHER INSTRUMENTS & SUPPLIES	•		
Large Speculums (3)		Condom Tamponade	
Sponge holding forceps (4)		Uterine Pack (6cm wide & 3	
		meter)2 in Number	
Bakri Balloon (Desirable)		Non-Pneumatic Anti Shock	
, , ,		Garment (Desirable)	
FOR CONDOM TAMPONADE			1
SS tray with Lid		Foley's Catheter no 16	
Sims Speculum		Condom	
Bowl with Swabs		IV set	
Sponge Holder		500ml NS	
Suture material		Scissors	
MAINTAINENCE		1	1
Kit kept at easily approachable place			
All medical and paramedical staff informed about place where the kit is kept			
Kit maintenance checked weekly			
Expiry date of the drugs checked weekly			
Mock drill conducted at the center every 3 monthly			
Date:	Signa	turo.	1
Date.	_		
	Nam	e.	



## PPH

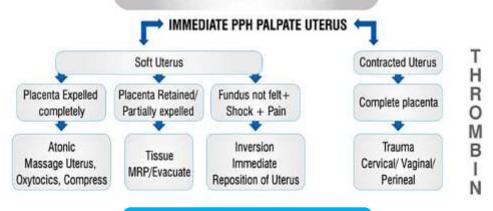


#### PREDICT PREPARE HANDLE

#### STEP 1 - GENERAL MANAGEMENT

- Shout for help
- Rapid evaluation of vitals
- Oxygen by mask 6-8 lit/min
- Uterine massage
- Check the placenta Is it expelled? If it is expelled, re-examine & make sure it is complete
  - Examine vagina, perineum and cervix for tear
- Oxytocin 10U 1M
- Site 2 large bore (16G-gray color) IV cannula
- Draw Blood for group and crossmatch
- Infuse IV fluid- NS/RL run it fast
- Catheterize bladder

#### STEP 2 - DIRECTED THERAPY



#### **UTEROTONICS AND OTHER DRUGS**

Drugs	Dose & Route	Maintenance Dose	Max Dose	Frequency	Precaution/
Oxytocin	IV infusion 10U / 500 ml 60 drops/min	IV infuse 20U/500 ml 40 drops/min	Not more than 3 L		
Ergometrine/ Methylergonovine	IM/slow IV of 0.2 mg	0.2mg after 15 min.	5 doses (1mg)	4th hourly	PIH, HT, Heart disease
15 methyl PGF2 a	1M 250 ug	250 ug after 15 min	8 doses (2mg)	15 - 90 min	Asthma, Heart disease
Misoprostol	800ug oral / rectal	Onset: 3-5min Peak: 20-30min Lasts: up to 75 miin	600-800ug	Single dose	Shivering, slight rise of temperature
Tranexamic acid ***	1 gm IV over 10 minutes Or 1 gm IV in 100 ml NS	Repeated within 30 to 60 minutes if necessary			Benefits overweigh the risks

··· WOMAN THE

Dr. Sheela Mane

## **FOGSI CHECKLIST: ECLAMPSIA KIT**

#### Confirm the following equipment in Eclampsia kit:

		-
<b>AIRWAY</b>	<b>EQUIPMENTS:</b>	

AIRWAI EQUIFIVILIVIS.			
ITEMS	AVAILABILITY	ITEMS	AVAILABILITY
Guedel Airways (Sizes 4, 3 and 2)		Mouth gag (1)	
Disposable oxygen mask/ nasal		Central suction/ Dedicated	
prongs (1 each)		electrical suction machine	
Bag, mask and valve (1)		Basic life support	
		equipment's (ET tube,	
		laryngoscope with batteries)	
Green oxygen tubing (2 meters)		Others, if any	

#### **OXYGEN CYLINDER:**

Cylinder availability checked	
Cylinder fullness checked	
Expiry date checked	

#### **VENOUS ACCESS EQUIPMENTS:**

EQUIPMENT	AVAILABILITY	EQUIPMENT	AVAILABILITY
20 G Cannula (pink) (2)		3-way cannula (1)	
18 G Cannula (green) (2)		Tourniquet (1)	
16 G Cannula (grey) (2)		Fixation tape/ surgical	
		sticking (1)	

#### **INTRAVENOUS FLUIDS:**

ITEMS	AVAILABILITY
Ringer lactate (1 Liter) (1)	
DNS (1)	
Normal Saline (100 ml) (1)	
Distilled water (10 ml) (5)	
IV set (2)	
DISPOSABLE SYRINGES	NEEDLES
20 CC (2)	18G (5)
10 CC (5)	20G (5)
5 CC (5)	22G (5)
Infusion syringe (If available) (1)	

#### DRUGS

DRUGS:		
Inj. MgSO4 (50%) (20 ampules)	Tab. Labetalol 100mg (4)	
Inj. Labetalol (20mg) (2 ampules)	Inj. Ondansetron (2)	
Inj. Hydralazine (20mg) (2 ampules)	Inj. Atropine, Adrenaline, furosemide (2 each)	
Inj. Calcium gluconate(10%)(2ampules)	Inj. Phenergan (2 ampule)	
Inj. Lignocaine (1)	Inj. Hydrocortisone (2 ampule)	
Tab. Nifedipine (4)	Calcium Gluconate	
	Others, if any	

#### OTHER EQUIPMENTS:

Bed with rales	Lignocaine jelly (1)	
Blood sample collection vials	Urine bag with uroflow meter (if	
(Plain/EDTA/Fluoride) (5 each)	available) (1)	
Urine albumin strip (1 bottle)	Reflex hammer (1)	
Spirit swab bottle (1)	Ampule cutter (1)	
Antiseptic solution (1)	Surgical gloves (5)	
Foley's Catheter (No.14+No.16) (1+1)	Others, if any	
Blood pressure apparatus (1)	Suction catheter (1)	
Stethoscope (1)	Checklist and patient monitoring	
	chart(1)	
Ryle's tube (1)	N95 mask for health personnel (1)	

#### **MAINTAINENCE:**

Kit kept at easily approachable place	
All medical and paramedical staff informed about place where the kit is kept	
Kit maintenance checked weekly	
Expiry date of the drugs checked weekly	
	L
Mock drill conducted at the center every 3 monthly	
MgSO4 administration chart displayed at center in proper condition	
Battery of the laryngoscope checked monthly	

Date:

Signature Name:

#### **Spot Differential Diagnosis of Eclampsia**

- Epilepsy (past history-normal BP)
- Cerebral Malaria (Fever with rigor, confirmed diagnosis by laboratory findings)
- Meningitis or Encophalitis (stiff neck + fever)
- Tetanus (Violent Spasms, Arched Back)

#### **Pritchard's Regimen**

- For Loading Dose -- Intravenous MgSo4 -- 4gms
- Take 4 ampoules (8 ml) of 50% w/v MgSO4 (4 gms)
- Add 12 ml of Normal Saline. (use a 20 ml Syringe)
- Thus 20 ml 20% solution is ready
- Give slowly over 5 mins.
- IV dose is followed PROMTLY by 10gms of 50% solution MgSo4 5mgs in each buttock, with 1 ml of 2% Lignocaine in the same syringe
- Take 10 ml syringe
- Take 5 ampoules (10 ml) of 50% w/v MgSO4
- Add 1 ml of 2% Lignocaine
- Give deep IM injection in each buttock.
- with large bore needle (16)

#### If convulsions recur after 15 minutes...

- Give 2gms MgSo4 (50% solution) IV over 5 minutes
- Take one 10 ml syringe
- Draw 2 ampoules of MgSO4 (4ml=2gms) into syringe
- Give IV Slowly over 5 minutes

#### Maintenance

- Give 5 g magnesium sulfate (50% solution) +1 mL lignocaine 2% IM every 4 hours into alternate buttocks.
  - Take one 10 mL sterile syringe.
  - Draw 5 ampoules of MgSO 50% (10 mL = 5 gm) into the syringe.
  - Add 1 mL of 2% Lignocaine in the syringe.
  - Verify in which buttock the last magnesium sulfate injection was given.
  - Give deep IM injection in the alternate buttock.

#### Monitoring

- The maintenance dose of Magnesium Sulphate is given only after assuring that:
- Patellar reflex is present
- Respiration not depressed. (RR >16/min)
- Urine output during previous 4 h exceeded 100 mL. (25ml/hr)
- Serum monitoring of magnesium level has been advocated, but is expensive and has not been shown to be superior to clinical monitoring.

#### **Respiratory depression**

Stop magnesium therapy.

Give 1 gm calcium gluconate I/V (10% Ca Gluconate 10 ml over 10 min with cardiac monitoring Give oxygen by mask

Maintain airway.

Nurse in recumbant position.

Eclampsia Trial Collaborative Group. Which anticonvulsant for women with eclampsia?
 Evidence from the Collaborative Eclampsia Trial Lancent 1995;345:1455.1463.

#### Guidelines for management of potential complications:

Respiratory arrest

Stop magnesium therapy.

Give 1 gm calcium gluconate I/V (10% Ca Gluconate 10 ml over 10 min with cardiac monitoring) To intubate and ventilate immediately.

Ventilation should be continued until the resumption of normal spontaneous respiration.

#### FOGSI CHECKLIST: MATERNAL COLLAPSE

#### **PATIENT PROFILE**

Patient name: Age: Date of Birth:

Husband's name:

Registration number: Date of admission:

ID proof: Height: Blood group: Weight:

Obstetric score: G P L A Contact number:

Last menstrual period: Expected date of delivery:

Period of gestation: Corrected Expected date of delivery:

Doctor's name:

History of allergy:

Booked/ unbooked:

### AOGS TIMES VOLUME : 4 I JULY 22

High risk informed consent taken							Yes □ N	lo
INITIAL MANAGEMENT								
Call for help done	Call for help done ☐ Yes ☐ No			Secretic	ns if present		□ Yes □	No
				drained				
Consciousness assessed	□ Yes	□ No			ng assessed		□ Yes □	No
Oriented	□ Yes					□ Yes □		
Glasgow Coma	□ Yes				ft uterine		□ Yes □	
Scale(*Annexure 1)				,	ment) done			
recorded				aispiace	mem, done			
Airway examined	□ Yes	□ No		IV line s	ecured IV flui	ds	□ Ves □	No□ Yes □ No
All Way examined	- 103	□ 1 <b>10</b>		started	ccarca iv mai	us	_ IC3 _	Non les a No
Airway secured	□ Yes	□ No		SPO2			□ Yes □	No
All way secured	l les			3502			□ 163 □	NO
Capillary refill time	□ Yes	□ No		CPR req	uired		□ Yes □	No
Pulse rate □ Yes □ No				If requir	ed, CPR giver	1	□ Yes □	No
Tachycardia 🗆 Bradycardia 🗆								
BP □ Yes □ No				Delivere	ed		□ Yes □	No
Hypotension   Hypertension								
Respiratory rate	□ Yes	□ No		If not de	livered, FHS		□ Yes □	No
' '				present				
Temperature recorded	□ Yes	□ No		•	on MgSO4 dr	in	□ Yes □	No
					xicity checke	-		
				, 23 (0	Silverice		□ Yes □	No
Detailed examination done	□ Yes	□ No		Any dru	gs given		□ Yes □	
including obstetric	cs				details recor	ded	_ ,	
examination				, , , , , , , , , , , , , , , , , , ,	actans (CCO)		□ Yes □	No
Detailed history taken	□ Voc	□ No		Urine	utput recorde	, d	□ Yes □	
,								
Samples taken	□ Yes	□ No		Defibrill	•		□ Yes □	No
				require				
Bedside coagulation tests	□ Yes	□ No		RBS dor	ie		□ Yes □	No
done								
Catheterization	□ Yes	□ No		If no, Ca	theterization	done [	□ Yes □ I	Vo
			F	IISTORY				
Patient handled outside		Diabe	tes mell	itus 🗆		Drug in	ntake/Ini	ections 🗆
Home delivery $\ \square$		Obesi	ty 🗆			LSCS□		
Instrumental delivery		Asthn				Litaria		. =
Instrumental delivery		Asum	па⊔			Oterm	e surger	y ⊔
Prolonged labour□		Multi	para 🗆	Hypert			tension [	
		· ·	· 					
Blood transfusion		AV th	rombosi	s □		Preecl	ampsia□	
T		C	- D -t	otococcal infection   Seizur		C = !=		
Trauma 🗆		Group	o-b strep	itococcai	ococcai infection - Seizur			er 🗆
Alcohol abuse□		Kidne	y disord	er 🗆		Diabet	es mellit	:us□
Heart disorder 🗆		Liver	disorder			Post partum hemorrhage □		
			FVA	DAINIA TIC	·NI			
Can and physical aversingsing			EXA	MINATIC	'IN			
General physical examination		es 🗆 No			laundi	occa+		U Voc - Nc
Pallor present					Jaundice pr	esent		□ Yes □ No □ Yes □ No
Pupils reactive		es 🗆 No			JVP raised			
Cyanosis present	_	es 🗆 No			Acidotic bre			□ Yes □ No
Clubbing present		es 🗆 No			Calf tenderr	iess pre	sent	□ Yes □ No
Edema present		es 🗆 No	י					
Systemic examination			.,				(	
CVS examination done (Arrhy	tnmia,		□ Yes	⊐ No	RS examinat		e(Air	□ Yes □ No
Murmur)					entry, Crepi	tations)		
Per abdomen examination								
Antepartum documentation:					Postpartum			
-			□ Vec	□ Yes □ No   documentat				
								□ Voc □ No
Uterine contour				□ No Uterine height		-		□ Yes □ No
Uterine tone	□ Yes							□ Yes □ No
			□ Yes					□ Yes □ No
Any other findings if present			□ Yes	□ No	Uterine inve	ersion		□ Yes □ No
Intrapartum documentation:					Surgical wo	und pre	sent	
Uterine contour			□ Yes	□ No	Distension p	•		□ Yes □ No
			□ Yes					□ Yes □ No
Uterine contractions			□ Yes		Guarding pr	acon+		
					• .			
Tenderness present	_,		□ Yes		Rigidity pres			□ Yes □ No
Scar dehiscence(if previous C			□ Yes	□ No	Any other fi	ndings i	Ť	□ Yes □ No
Fetal parts palpable superficia	ally		□ Yes	□ No	present			
Any other findings if present				□ No				□ Yes □ No

#### AOGS TIMES VOLUME: 4 I JULY 22

Local examination											
Bleeding PV present	<del>-</del> •						Postpartum documenta	ntation:			
Foul smelling dischar		ent					Bleeding PV	•		□ Yes □ I	No
Any other findings if present Intrapartum documentation:							Foul smellin	ig disc	narge PV	□ Yes □ ſ	No.
Bleeding PV present	entation:			□ re:	S LINO		Mass per va	ginum	nresent	l res l i	NO
Foul smelling dischar	ge PV pres	ent		□ Ye:	s 🗆 No		Perineal wo	_	•	□ Yes □ I	No
Mass per vaginum pr	· .						Any other fi	•	•		
Any other findings if	present			□ Ye	s 🗆 No		present	_		□ Yes □ I	No
					s 🗆 No						
				□ Ye	s 🗆 No					□ Yes □ ſ	No
PROVISIONAL DIAGN	NOSIS POSS	IBLE:	Yes		□ No						
MEOWS SCORE(*An	nexure 2):	Scori	ng don	ie: 🗆	Yes	[	□ No				
MANAGEMENT	•		_								
INVESTIGATIONS(RI	ELEVANT TO	O CASE	) DON	E							
Blood grouping and cross matching	□ Yes □ N	lo	Lacta	te			Yes □ No	Coag	ulation le	□ Yes □	□ No
RBS	□ Yes □ N	lo	Serun	n		Π,	Yes □ No	LFT		□ Yes □	□No
			electrolytes								
CBC		□ Yes □ No   ECG				□ Yes □ No F				□ Yes □	□ No
Special investigations					⊐ Yes ⊏	∃ Nc	)				
DESIRABLE IN\	1							- 1 -			
D-dimer	□ Yes □ I		_	Angiography CT Scan			☐ Yes ☐ No ☐ 2-D Ec		D Echo	□ Yes	
Chest X Ray	u res u i	NO	CIS		TREATI	MEI		A	30	_ □ res	□ NO
Time of start of resus	scitation	□ Yes	□ No				ogist involven	nent	□ Yes □	No	
Referred		□ Yes	□ No		Debrie	efin	g		□ Yes □	No	
Followed referred pr	otocol		□ No		ICU shift			No			
Decision to shift to IC		□ Yes	□ No		Inotropic support given □ Yes □ No			No.			
required taken											
Cardiology reference	given	□ Yes	□ No		Availa check		ty of crash car	rt	□ Yes □	No	
Anaesthetic involven	nent	□ Yes	□ No		Neona	atol	ogist involven	nent	□ Yes □	No	
Antithrombotics give	en			lnj.	Calciu	m g	luconate give	n for I	√lgSO4 tox	cicity	
Thromboprophylaxis	given			Blo	od tran	sfu	sion given				
Antibiotics given				Sur		араг	rotomy/Uterii	ne arte	ery emboli	zation	
MgSO4 therapy given      Treatment for drug anaphylaxis given											
Antihypertensive given   Definitive Management ( As per Cause)											
Planned for Perimortem Cesarean Section											
Date:						_	nature me:	I			
				Α	NNEXU						

#### **GLASGOW COMA SCALE**

Eye Opening		Verbal Resp	onse	Motor Response		
	Points		Points		Points	
Spontaneous	4	Oriented	5	Obeys commands	6	
To voice	3	Confused	4	Localizes pain	5	
To pain	2	Inappropriate words	3	Withdraws	4	
None	1	Incomprehensible sounds	2	Abnormal flexion	3*	
		Silent	1	Abnormal extension	2**	
				No movement	1	

#### **ANNEXURE 2 MEOWS SCORE**

Physiological parameters	Normal values	Yellow alert	Red Alert
Respirator rate	10-20 breaths per minute	21-30 breaths per minute	< 10 or >30 breaths per minute
Oxygen saturation	96-100%		< 95 %
Temperature	36.0-37.4°C	35-36 or 37.5- 38°C	× 35 or > 38 °C
Systolic blood pressure	100-139 mmHg	150 - 180 or 90 - 100 mmHg	>180 or < 90 mmHg
Diastolic blood pressure	50-89 mmHg	90-100 mmHg	>100 mmHg
Heart rate	50-99 beats per minute	100- 120 or 40 -50 beats per minute	>120 or < 40 beats per minute
Neurological response	Alert	Voice	Unresponsive pain

#### AOGS TIMES VOLUME: 4 | JULY 22

#### Maternal Collapse: Spot D/D

(after Immediate resuscitation)

Try to do spot Probable diagnosis –

Is it APH or PPH?

**PATIENT PROFILE:** Patient name:

Husband's name:

If not, then think for non-haemorrhagic causes.

H/O and probable diagnosis....

H/O Severe HT, convulsions – Eclampsia

H/O Grand multipara or previous uterine scar or Instrumental delivery- Rupture of the Uterus.

H/O Mismanaged 3rd stage of labour, short cord or MRP-Inversion of uterus.

H/O Previous infection (not necessarily), Fever, rigors, hypotension-Septic shock

H/O SA in higher position, difficult SA, C/O heaviness in the chest, gabhraman, breathlessness within few minutes of SA - high Spinal Anaesthesia.

H/O Vomiting under anaesthesia, respiratory distress, bronchospasm, cyanosis and problem starts within few hours-Mendleson's Syndrome.

H/O fall in the B.P. within few minutes after SA – Supine Spinal Shock.

H/O Previous cardiac problems, c/o acute Lt sided chest pain, Gabhraman, hypo tension – Maternal Cardiac problems, mainly Myocardial Infarction.

H/O Vehicular accidents or domiciliary violence – Trauma

H/O Collapse after administration of drugs, S/S allergic reactions – Drug reaction or overdose.

H/O Painful stimuli, injections etc – Anaphylactic reaction

H/O Collapse immediately during or mainly within 30 minutes of delivery, mainly in multipara or in precipitate labour and no obvious cause, hypoxia, hypotension or in any case always think for – AFE

H/O Sudden onset of unexplained dyspnoea, tachypnoea, especially in western countries because of venous stasis and hypercoagulability of blood - Pulmonary Thromboembolism.

#### FOGSI CHECKLIST: NEONATAL RESUSCITATION

Age:

Date of Birth:

Registration number: ID proof: Blood group: Obstetric score: G P L A	Date of admission: Height: Weight: Contact number:				
Last menstrual period:	Expected date of delivery:				
Period of gestation:			prrected Expected date of delivery:		
Doctor's name:			urse's name:		
History of allergy:		БС	ooked/unbooked:		
Required equipments kept ready	□ Yes	□ No	Laryngoscope	□ Yes	□ No
Informed Pediatrician	□ Yes	□ No	ET tubes	□ Yes	□ No
Stethoscope	□ Yes	□ No	Oxygen source	□ Yes	□ No
Sterile gloves	□ Yes	□ No	Type of oxygen cylinder noted	□ Yes	□ No
Medications –	□ Yes	□ No	Positive pressure device(Ambu	□ Yes	□ No
IV fluids	□ Yes	□ No	bag, T piece resuscitator)		
Normal saline	□ Yes	□ No			
Epinephrine	□ Yes	□ No			
Suction apparatus	□ Yes	□ No	Scissors	□ Yes	□ No
			Adhesive tapes	□ Yes	□ No
Umbilical catheter	□ Yes	□ No	Splint for arm (to maintain IV line)	□ Yes	□ No
Clock with seconds hand	□ Yes	□ No	3 way stop cock	□ Yes	□ No
Shoulder roll	□ Yes	□ No	8 Fr Feeding tubes	□ Yes	□ No
Warm linen	□ Yes	□ No	Syringes(1, 3, 5, 10, 20 ml)	□ Yes	□ No
Cord clamp	□ Yes	□ No	Neonatal resuscitation	□ Yes	□ No
100 Watt overhead electric bulb/Solar light	□ Yes	□ No	protocol chart displayed		
22.0/22.2					

#### AOGS TIMES VOLUME: 4 I JULY 22

Infusion pump	DESIRABLE EQUIPMENTS						
Maternal high risk factors   Governmented (if any)   Governmentation   Governmented (if any)   Governmentation   Governmented (if any)   Governmente	Infusion pump	□ Yes	□ No	Humidified oxygen supply	□ Yes	□ No	
Maternal high risk factors	Radiant warmer	□ Yes	□ No	source			
documented (if any)			DELIVER'	Y DETAILS			
Mode of delivery documented	Maternal high risk factors			Intrapartum/Intra operative			
resuscitation   flyes, adequate preparation   done	documented (if any)	□ Yes	□ No	findings documented	□ Yes	□ No	
resuscitation   flyes, adequate preparation   done	Mode of delivery documented	□ Yes	□ No	Anticipated neonatal	□ Yes	□ No	
BABY DETAILS Documentation	,			•			
BABY DETAILS Documentation				If yes, adequate preparation	□ Yes	□ No	
Date of birth   Birth weight   Time of birth   Baby sex							
Date of birth   Birth weight   Time of birth   Baby sex		ВА	BY DETAILS	Documentation			
Baby cry /respiratory efforts	Date of birth   Birth weig						
Baby cry /respiratory efforts	BARY CONDITION IMMEDIATEL	Y AFTFR	BIRTH	· · · · · · · · · · · · · · · · · · ·			
noted				If above features normal.	□ Yes	□ No	
IF ABOVE FEATURES ABNORMAL							
Dry, warmth, clear airway done	Baby tone noted	□ Yes	□ No				
REASSESSMENT AFTER 30 SEC  Heart rate <100bpm noted	IF ABOVE FEATURES ABNORMA	\L			•		
REASSESSMENT AFTER 30 SEC  Heart rate <100bpm noted	Dry, warmth, clear airway	□ Yes	□ No	Stimulation of baby done	□ Yes	□ No	
Heart rate <100bpm noted							
Apnea noted				I			
Baby is Gasping	·		□ No	PPV started	□ Yes	□ No	
If all the above are absent, looked for cyanosis/ labored breathing    Yes   No   Effective positive-pressure ventilation (Rapid rise in heart rate, Improvement in oxygenation, Improving muscle tone, Audible breath sound, Chest movement) noted    If cyanosis/ Labored   Yes   No   SpO2 monitored continuously   Yes   No   No breathing, CPAP started   REASSESSMENT AFTER 60 SEC   HR<100bpm   Yes   No   No   No   If yes, ventilation corrective steps taken   Yes   No   No   If HR>100bpm, post resuscitation care given   Yes   No   No   If yes, Intubation done   Yes   No   Chest compression started   Yes   No   No   Chest compression with positive-pressure ventilation at 3:1   Yes   No   No   HR persistently less than 60bpm   Yes   No   No   Condition improving after above manoeuvres   Yes   No   No   If baby stabilized, post resuscitation care given   Yes   No   No   Nearby Neonatal Resuscitation Centre kept available in case of need   Yes   No   No   No   No   No   No   No   N							
looked for cyanosis/ labored breathing					1		
breathing rate, Improvement in oxygenation, Improving muscle tone, Audible breath sound, Chest movement) noted  If cyanosis/ Labored	1	□ Yes	□ No		□ Yes	□ No	
oxygenation, Improving muscle tone, Audible breath sound, Chest movement) noted  If cyanosis/ Labored	-						
muscle tone, Audible breath sound, Chest movement) noted  If cyanosis/ Labored	breatiling			-			
sound, Chest movement)   noted							
If cyanosis/ Labored							
REASSESSMENT AFTER 60 SEC  HR<100bpm   Yes   No   If yes, ventilation corrective steps taken   Yes   No   No   If HR>100bpm, post resuscitation care given   Yes   No   No   If yes, Intubation done   Yes   No   Chest compression started   Yes   No   No   Chest compression with positive-pressure ventilation at 3:1   Yes   No   No   No   No   No   Nearby Neonatal Resuscitation care given   Yes   No   No   Name:				noted			
REASSESSMENT AFTER 60 SEC  HR<100bpm		□ Yes	□ No	SpO2 monitored continuously	□ Yes	□ No	
HR<100bpm   Yes   No   If yes, ventilation corrective steps taken   Yes   No   No   If HR>100bpm, post resuscitation care given   Yes   No   No   HR<60bpm   Yes   No   No   No   No   No   No   No   N	<u>-</u>						
If yes, ventilation corrective steps taken						1	
If HR>100bpm, post resuscitation care given							
HR<60bpm   Yes	If yes, ventilation corrective steps taken □ Yes □ No						
HR<60bpm   Yes	If HR>100bpm, post resuscitation care given □ Yes □ No						
Chest compression with positive-pressure ventilation at 3:1	, , , ,						
Condition improving after above manoeuvres	·						
HR persistently less than 60bpm	Chest compression with positive-pressure ventilation at 3:1 ☐ Yes ☐ No						
HR persistently less than 60bpm							
If yes, IV Epinephrine given   Yes   No Colloids given   Yes   No  If baby stabilized, post resuscitation care given   Yes   No  Nearby Neonatal Resuscitation Centre kept available in case of need   Yes   No  Date: Signature  Name:							
If baby stabilized, post resuscitation care given   Nearby Neonatal Resuscitation Centre kept available in case of need   Signature  Name:							
Nearby Neonatal Resuscitation Centre kept available in case of need   Signature  Name:	, , , , , ,						
Date: Signature Name:							
Name:	· ·						
ANNEXURE 1							
	ANNEXURE 1						

## **APGAR SCORE**

SCORE	0 points	1 point	2 points	
Appearance - Skin colour	Cyanotic/ Pale all over	Peripheral cyanosis only	Pink	
Pulse (Heart rate)	0	<100	100-140	
Grimace - Reflex irritability)	No response to stimulation	Grimace (facial movement)/ weak cry when stimulated	Cry when stimulated	
Activity - Tone	Floppy	Some flexion	Well flexed and resisting extension	
Respiration Apnoeic		Slow, irregular breathing	Strong cry	

## **DNA PRESERVATION**



**Dr. Janak Desai (M.D)**FMC at "Ansh Fetal Care Centre"



**Dr. Amee Shah (M.S)**FMC at "Ansh Fetal Care Centre"



Dr. Prakruti Raval Desai (M.B, D.G.O) "Ami Nursing Home", Ahmedabad

#### Introduction

There are more than 6000 known genetic disorders.

They are classified as

- a) Chromosomal Where an entire or part of the chromosome is missing or changed for e.g. Down's syndrome.
- b) **Single gene disorders –** Where mutation affects one gene e.g. Sickle cell anemia, Thalassemia.
- c) **Mitochondrial** Group of disorders caused due to mitochondrial dysfunction e.g. Optic neuropathy, Leigh syndrome.
- d) **Multifactorial** There are mutations in two or more genes affected with contribution of "Environment" and/ or "Lifestyle factors" which contribute.

e.g. Breast or Colon cancer.

They can be inherited in an Autosomal Recessive, Autosomal Dominant, X- linked Recessive or X -linked Dominant manner or it can be "DE novo" (New Mutation).

Most of these "Genetic Disorders" <u>cannotbetreated</u>, once they are diagnosed, antenatally or postnatally. They can be prevented in pregnancy by early diagnosis through Chorion biopsy at 12/14 weeks or Amniocentesis after 16 weeks of gestation.

For the early diagnosis, proper genetic diagnosis of <u>index case</u> is must.

But unfortunately, in most of the cases we loose the index case without genetic evaluation, after IUD or termination Many of the diseases have overlapping clinical symptoms, like failure to thrive, seizures, vomiting, delayed milestones. It becomes difficult to reach a definitive diagnosisant enatally or posnatally without genetic investigation.

Complete antenatal assessment of the phenotype (Clinical presentation of a genetic defect) is not *always* possible. For example if a fetus is carrying a homozygous mutation of Beta Thalassemia, which will manifest as Thalassemia major postnatally, the fetus can look perfectly normal on ultrasound.

#### Case discussion

Patient Mrs. X was refereed to us by a senior Obstetrician for growth scan.

Her previous two children delivered by LSCS.

Her FTS was done at our center and TIFFA scan was done by a radiologist.

On sonography, fetus was of 34 weeks of gestation. We needed to look for delayed appearing anomalies at growth scan. On plotting serial growth charts and detailed usg, the fetus showed -

- Macrosomia
- Polvamnios
- Absent / small stomach bubble
- Unilateral cleft lip
- Bilatetral hyperechoic kidneys with normal CMD
- Huge hepatomegaly.
- Increased resistance in umbilical artery.
- MCA doppler normal

Patient was counselled that it was --

- Non lethal anomaly with guarded/poor prognosis because of multiple system involvement.
- Possibility of syndromic baby due to multiple organ involvement.
- Final diagnosis will be determined postnatally with genetic investigations.

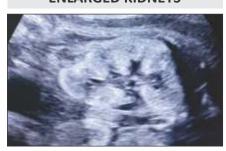
#### **HUGE HEPATOMEGALY**



#### **UNILATERAL CLEFT LIP**

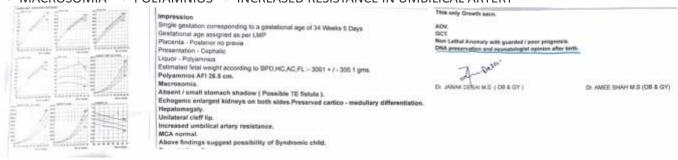


## BILATERAL HYPERECHOIC ENLARGED KIDNEYS



#### SERIAL GROWTH CHART SHOWING

• MACROSOMIA • POLYAMNIOS • INCREASED RESISTANCE IN UMBILICAL ARTERY



The baby was delivered by LSCS and cried well. After 48 hours of birth the baby developed seizures and acidemia. Antenatal findings of hepatomegaly and enlarged kidneys was not confirmed postnatally because of poor quality usg after birth (portable machine & did not focus on those findings).

The relatives did not want to send any investigations. But on neonatologist and our insistence, neonatal blood was sent for

- 1. Enzyme study and
- 2. DNA preservation (for genetic Investigation needed in future).

The genetic laboratory agreed to do the test free of cost.

Before the enzyme study could come, the baby succumbed after 3 days of birth.

The enzyme study showed acidemia due to Carnitine Palmitoyl transferase type 1 deficiency



We requested further testing for mutation study. But we had to request the laboratory to do it with minimal possible cost as the parents were unwilling to pay for it. We paid for our academic interest.

With the consultation of a geneticist, Clinical exome sequencing was done. The report came back after 4 weeks which suggested possible "Infantile hepatic failure syndrome"

REPORT

#### Biallelic Mutations in NBAS Cause Recurrent Acute Liver Failure with Onset in Infancy

Tobias B. Haack, [4,4] Christian Stanfiner, [4,4] Marthey G. Köpke, [4,5] Beare K. Strauh, Stefan Kößker, Cheintian Thied, Feter Freininger, From Baric, Fatrick J. McKleman, Nicola Dikow, Bega Harting, Bemming Beisse, [4,5] Peter Burgard, Urania Kotzaeridou, Joachim Kühr, [4,5] Urban Himbert, [4,6] Robert W. Taylor, [4,5] Felix Distermany, Uscales, [5,6] Laina S. Kirmere, Elisabeth Grad, Thomas Schwartmays, Daniel M. Bader, [7,6] Julien Gagileut, [7,7] Thomas Wieland, Caterina Tentie, Tim M. Strom, [4,7] Thomas Meitinger, [4,7] Georg E. Hoffmann, [4,7] and Holger Prokinch [4,7,8].

#### Discussion

This case highlights the need for DNA PRESERVATION. Whenever a diagnosis of a lethal or non- lethal anomaly with poor prognosis is made, patients usually terminate the pregnancy without any further genetic evaluation.

 $This \, happens \, because \, of \, multiple \, reasons.$ 

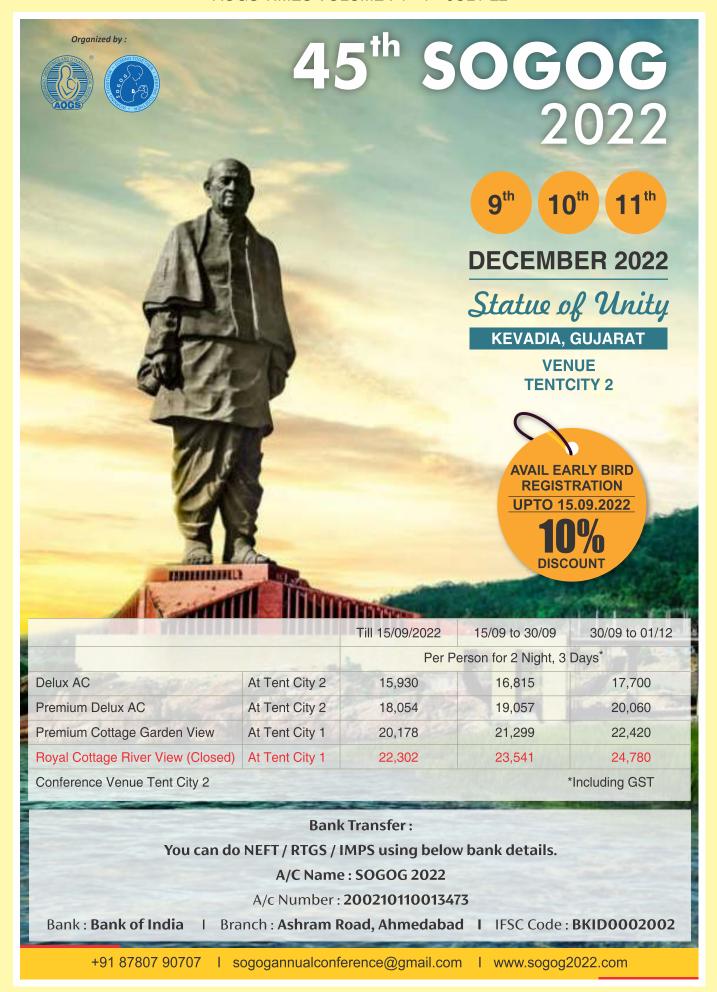
- $1. \quad \text{Firstly the patient is not properly counselled and is not explained the importance of testing.} \\$
- 2. The obstetrician is not very keen and does not insist for the testing.
- 3. Cost considerations
- 4. Opinion of relatives who were not present during counselling also influence patient's decision.
- 5. Grief of losing the baby with accompanying emotional detachment also plays a role.

Whenever a fetus has been diagnosed with an anomaly, proper counseling to explain the anomaly with its prognosis, recurrence rate and available testing should be done. This helps the patient to make an informed decision which will help in the next pregnancy.

Preserved DNA can be used anytime just after termination or whenever parents are ready to go for genetic testing. Index case genetic diagnosis is amust for counselling of recurrence rate and early prenatal diagnosis in next pregnancy

Preservation of DNA costs only 1000 to 1500 Rs. for 3 years by all laboratories. They can also do it free of cost on our insistence.

DNA is Preserved for step wise approach of QF – PCR and Microarray followed by Clinical or whole exome sequencing if required should be advised when the findings on ultrasound do not point towards a particular genetic problem.





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- International health care award 2017 & certificate of excellence presented to "SNEH HOSPITAL & IVF CENTER" for best upcoming IVF & Women infertility hospital of gujarat
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- The best male infertility specialist & IVF center of india awarded by india healthcare award
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