

Meaningful interpretation of Placenta-histology

Understanding reports and standardising communication by devising toolkits

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Introduction

- Majority of obstetric litigations are related to unskilled evaluation of placenta.
- This results from a failure to:
 - identify the clinical importance of placental lesions.
 - detail clinical significance of observed placental lesions in medical records.
 - to communicate to the parents these cause-and-effect relationships.

An extensive placental evaluation and a skilled clinic-pathological interpretation should always be performed

Background

- Within ULHT, we do not appropriately do the evaluation of the histology report of the placenta.
- There is no guidance available to clinicians which might help in the interpretation of the placenta histology reports.
- Placental histopathological lesions and the extent to which they can cause obstetric complications needs to be rigorously evaluated, informed and documented.
- An interpretation of histological lesions is complex, and requires skill and insight into clinical-pathologic correlation.

This project seeks to address this question by studying and interpreting the results of placental pathology reports

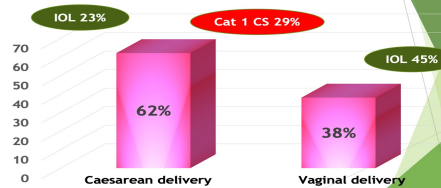
Objectives

- Study the placental histology reports
- Identify the used terminology in the reports
- Apply clinical significance of the reports with respect to the clinical outcome
- Produce guidance for the clinicians
- Standardise the pathology referral forms across the trust
- Support the conclusions of the PMRT reports by adding placental histology evaluation results

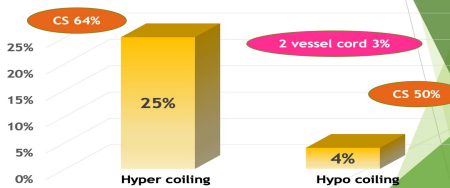
Methods

- Currently we are sending nearly 10% of placenta for pathology examination
- Studied the reports of 100 placentas sent for histology from PHB
- Study period: March 2018 to April 2019 (14 months)
- Difficult to obtain data as ULHT lab or labour ward do not keep the statistics
- Requested Lorri Allport - now placenta is a mandatory midway field since Aug19
- Contacted Prof. Marta Cohen, consultant pathologist at Jessops, Sheffield.
- Liaised with Prof. Dilly Anumba, consultant obstetrician at Jessops, Sheffield.

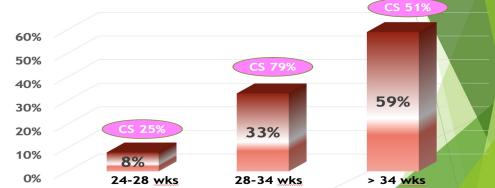
Mode of delivery



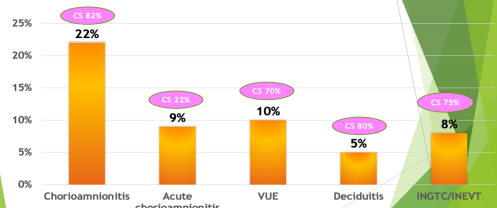
Coiling of the umbilical cord



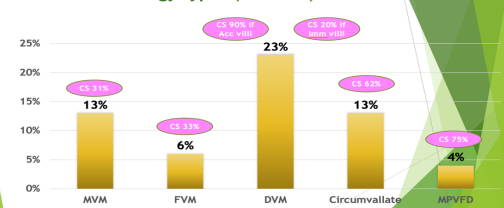
Timing of delivery



Placental histology types (Inflammatory)



Placental histology types (Vascular)



Conclusion

Most placentas had some type of lesion (either developmental, hypoxic, inflammatory or vascular).

Almost 60 percent of placentas showed multiple histological lesions.

The histological placental evaluation provides valuable features that are useful to:

- parents in understanding the cause of an adverse outcome
- health care providers both for parent counselling and as a legal defence

The results of this study can be used as a reference when interpreting the results of placental pathology.

We have developed a tool for clinicians to interpret and communicate to parents this cause-and-effect relationship of placenta. This meaningful clinical-pathological interpretation also helps in planning the antenatal care for subsequent pregnancies.

Histological placental evaluation			ID label / NHS number
Please circle as per histology report			
Form to be filled in the woman's file			
Placental Histology	Clinical condition	Advice for subsequent pregnancy	
1. Maternal Vascular Malformation Recurrence risk: 10-25%	Thrombophilia Pre-eclampsia Diabetes, Smoking	Low dose aspirin, Stop smoking, Ul Art Doppler Autoimmune testing, Screen for GDM Fetal surveillance in 3 rd trimester	
2. Massive Peri-villous Fibrin Deposition Maternal Floor Infarction Recurrence risk: 40-60%	Thrombophilia Pre-eclampsia Smoking	Autoimmune testing, Stop smoking LMWH and low dose aspirin Fetal surveillance in 1 st , 2 nd , 3 rd trimester Delivery by 40 weeks	
3. Villitis of Unknown Etiology Recurrence risk: 25-50%	Thrombophilia	Autoimmune testing LMWH, low dose aspirin Fetal surveillance in 1 st , 2 nd , 3 rd trimester	
4. Fetal Vascular Malformation Intervillous Thrombosis / Infarction Sub-chorial Thrombosis / Breus mole	Thrombophilia Diabetes, Smoking Severe chorioamnionitis	Autoimmune testing, Screen for GDM Low dose aspirin, Stop smoking Fetal surveillance in 3 rd trimester	
5. Distal Villous Maldevelopment Accelerated mature villi Immature villi	Thrombophilia Diabetes, Smoking Pre-eclampsia	Stop smoking, Low dose aspirin Autoimmune testing, Screen for GDM Fetal surveillance in 3 rd trimester	
6. Chorioamnionitis (histological) Vasculitis / Funisitis Deciduitis	Underlying infection Cervical incompetence	Treat underlying periodontal disease Cervical length screening if PTB	
7. Hypocoiling (<0.07 coils/cm)	Hypertension, Pre-ecl Oligohydramnios Smoking	Stop smoking Low dose aspirin Fetal surveillance in 1 st , 2 nd , 3 rd trimester	
8. Hypercoiling (>0.30 coils/cm)	Diabetes, Cong anomaly Polyhydramnios	Low dose aspirin Fetal surveillance in 1 st , 2 nd , 3 rd trimester	
9. Circumvillate Circummarginate >30%	Marginal abruption	Stop smoking Low dose aspirin Fetal surveillance in 3 rd trimester	
10. Small Placenta	Chronic hypoxia	Stop smoking Low dose aspirin Fetal surveillance in 1 st , 2 nd , 3 rd trimester	
11. Large Placenta	Diabetes Anemia	Screen for GDM Iron transfusion if anaemic in 2 nd trimester	
12. Increased Giant Trophoblast Cells Increased Extravillous Trophoblasts	Chronic hypoxia	Stop smoking Low dose aspirin Fetal surveillance in 1 st , 2 nd , 3 rd trimester	
13. Chorionangioma / Chorionangioma Chorionic cysts Laminar Necrosis	Chronic hypoxia	Stop smoking Low dose aspirin Fetal surveillance in 1 st , 2 nd , 3 rd trimester	
Consultant (Signature) _____			Date - _____