



LAB CONNECTIONS

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IN THIS ISSUE:

- Dr. Etienne Mahe, 3rd year AP resident at McMaster University, describes the use of frozen sections for the diagnosis of chorioamnionitis. This technique with its rapid turnaround time will impact on management of our vulnerable patients.
- Cathie McCallum and Tom Dorland introduce the different teams responsible for HRLMP Quality management.

WHAT'S NEW?

- [Genotyping of thiopurine S-methyl transferase \(TPMT\) is now available.](#)
- [The diagnosis of C. difficile is now done with the more sensitive PCR assay.](#) Follow the links (CTRL + link)

A New Approach to the Diagnosis of Chorioamnionitis: Fast Evaluation on Frozen Section of Umbilical Cord and Fetal Membranes *E.M. Mahe.*

Background

Chorioamnionitis refers to acute inflammation of the placental tissues, usually due to an infectious process. It is documented in up to 10% of pregnancies with a neonatal mortality up to 10% in preterm babies (1). The infectious agents causing chorioamnionitis are usually bacteria and most often arise from the maternal genitourinary tract (2). Traditionally, the diagnosis of chorioamnionitis has been made clinically with cultures or other laboratory tests used as confirmation. Recently, however, studies have shown that cases of chorioamnionitis can be missed when clinicians rely entirely on standard culture techniques (3). Furthermore, outside of pathologic examination of placental tissues, the traditional methods of diagnosis do not provide a reliable picture of the inflammatory response (4). The standard pathologic examination of placental tissues, furthermore, is subject to the same delays seen in other areas of tissue pathology. Devising a quick method of pathologic tissue diagnosis of chorioamnionitis may reduce diagnostic uncertainty at a very crucial time in the life of a neonate.

YOUR FEEDBACK IS VALUED!

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Your feedback,
suggestions and new
ideas are most welcome!

What's currently being studied?

We have just completed a preliminary study of frozen sections for use in the early diagnosis of chorioamnionitis. Our study assessed 49 cases of clinically suspect chorioamnionitis for evidence of and extent of neutrophilic inflammation in frozen tissue obtained from the placental membranes and umbilical cord. We compared frozen sections taken from fresh frozen tissue to the resulting formalin-fixed paraffin-embedded sections (the routine method of tissue examination). Each slide was evaluated by a group of pathologists independently, followed by a consensus panel. Preliminary data suggests that the diagnosis from a frozen section can be made with good accuracy and interobserver agreement relative to standard techniques. Furthermore, in contradistinction to current tissue pathology techniques (which can routinely take over a week), a frozen section can render a diagnosis in 30 minutes.

What's next?

Our data is supportive of the use of frozen sections in the early diagnosis of chorioamnionitis, which will have a direct impact on treatment trajectories for our most vulnerable patients. We anticipate that this technique will become available soon at MUMC. Using this practice will then generate data for future studies including relevant clinical outcome in order to more robustly define the clinical utility of frozen sections in clinically ambiguous cases of chorioamnionitis.

References

1. Fahey, J. O., Clinical management of intra-amniotic infection and chorioamnionitis: a review of the literature, *J Midwif Women Health*, 2008; 53: 227-235.
2. Perrin, E. V.D.K. (Ed), *Pathology of the placenta*, Churchill-Livingstone, 1984.
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4. Rao, S., Pavlova, Z., Incerpi, M. H., Ramanathan, R., Meconium-Stained Amniotic Fluid and Neonatal Morbidity in Near-Term and Term Deliveries with Acute Histologic Chorioamnionitis and/or Funisitis, *J Perinatol*, 2001; 21: 537-540.

Dr. Etienne M. Mahe is a PGY 3 Anatomical Pathology resident at McMaster University. The study presented here won the award for best paper at the Pathology Resident Research Day 2010.

TRAINING PROGRAMS:

For information and the latest news on our residency training programs please follow the link:

<http://www.fhs.mcmaster.ca/pathres/news/index.html>

Information on the postdoctoral fellowship training program can be obtained by following the link:

<http://fhs.mcmaster.ca/pathology/education/postdoctoralfellowshiptraining.htm/>

QUALITY SNAPSHOT: Organization and Personnel Management

In the last issue, we presented the Quality Management System model and the 12 essentials necessary for any system. The organization and personnel management are key components to the functionality of the HRLMP system.

“Two approaches to quality improvement to avoid: systems without passion and passion without systems.” (Tom Peters)

The HRLMP leadership is passionate about providing quality patient care. To harness this passion the HRLMP Quality Management System is designed to continually improve the effectiveness and efficiency of our performance.

Within the HRLMP, the Quality Management System is actively supported by Laboratory leadership with an established Quality Framework that promotes the involvement of many staff across the Program.

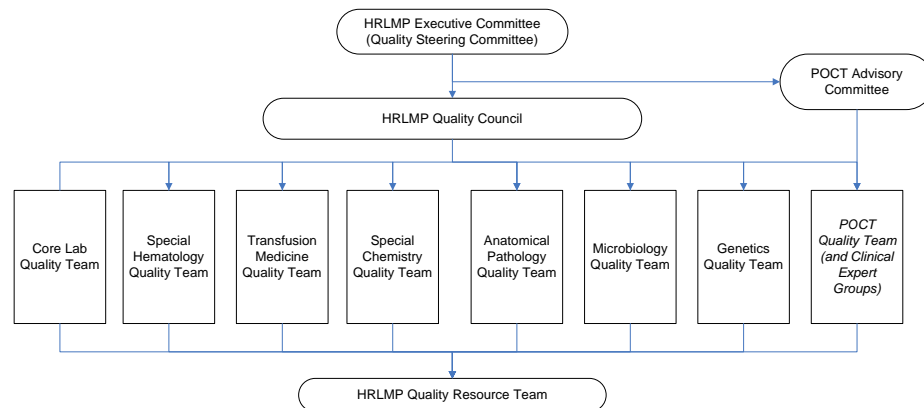


Figure 1: HRLMP Quality Framework

These teams and members, which are comprised of executive management through to front line staff members, function to: foster a culture of continuous improvement, monitor Program performance, oversee the implementation of appropriate, aligned, data-driven quality improvement initiatives, ensure compliance to accreditation requirements, share successes and sustain improvement gains.

“The organizations that will truly excel in the future will be the organizations that discover how to tap people’s commitment and capacity to learn at all levels in an organization.” (Peter Senge)

Currently, there are over six hundred and ninety personnel employed by the HRLMP across 6 distinctly different disciplines. HRLMP Management is committed to recruiting and retaining competent, motivated, qualified staff that are best prepared for their respective positions and will provide the highest quality service. With this framework, HRLMP is tapping into our people and their commitment to improvement and to meeting our goal of providing ***the best tests and the best results.***

***Cathie McCallum, Quality Manager, HRLMP, and
Tom Dorland, Quality Specialist, HRLMP***