RCPA Quality Assurance Programs Pty Ltd Presentations

PATHOLOGY USE STEWARDSHIP: PRE-ANALYTICAL REVIEW OF TISSUE SPECIMENS PREVIOUSLY PROCESSED BY DEFAULT FOR MYCOBACTERIAL CULTURE MAINTAINS THE QUALITY OF LABORATORY DIAGNOSIS AND OPTIMISES THE USE OF LABORATORY RESOURCES

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Aims: Default mycobacterial culture of all tissue specimens prevents missed diagnoses but remains resource-intensive, creates potential for false positives and consumes potentially 'precious' specimen. Through pre-analytical review, we aimed to optimise the use of laboratory resources while maintaining sensitivity.

Methods: Tissue specimens were either processed automatically (by site or request) or were reviewed for appropriateness by a Microbiology Registrar. Records of patients with cancelled mycobacterial cultures were reviewed for potentially missed infections via histopathology and any other mycobacterial cultures.

Results: 514 specimens were processed over 146 days; 229 (45%) cultures were cancelled after registrar review, 152 had culture added by the registrar and 133 cultures were performed 'automatically'. To date, 8 specimens are culture-positive, 7 of these had mycobacterial culture requested and 1 was registrar instigated. No patient with a 'cancelled' culture request was culture-positive for mycobacteria from another specimen, or had histological findings suggestive of mycobacterial infection. Nineteen of 112 (16%) requested cultures were delayed one day.

Discussion: Microbiologist pre-analytical review of tissue culture requests was rapid, allowed significant reduction of unnecessary testing with an estimated annual saving of \$25,220 and did not adversely affect service provision. All patients deemed to have possible mycobacterial infection had their specimens cultured.

AN AUDIT OF FRONTLINE (F)ISH TESTING OUTSIDE THE AUSTRALIAN SETTING ON HER2 POSITIVITY RATES IN BREAST CANCER AND THE IMPACT OF THE 2013 ASCO GUIDELINES

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Aim: To determine our HER2 positivity rates for invasive breast carcinoma using frontline FISH testing rather than CISH or SISH

in a laboratory outside Australia, and to understand the impact of the 2013 ASCO guidelines on overall HER2 positivity rates.

Data: The HER2 status in patients diagnosed with invasive breast carcinoma between 2009–2014 was determined on core or excision specimens sent to Canterbury Health Laboratories ($n=797$).

Results: HER2 positivity rates varied from 12–21%, with an average of 15.5%. With the introduction of frontline FISH testing, the overall HER2 positivity rate was 13%, below the average for the preceding 4 years of 16%, achieving similar rates for positivity as Bilous *et al.*¹ The 2013 ASCO guidelines resulted in an increase in overall Her2 positivity rates to 20.93%.

Discussion: Discussion points will include:

- Should New Zealand laboratories adopt the frontline ISH testing model as per College guidelines?
- Does frontline ISH testing save money from a whole of systems perspective?
- The impact of ASCO guidelines on HER2 positivity rates in breast cancer.
- Is it time to change the testing algorithm to an ISH only model?
- Suggested guidelines for dealing with equivocal FISH results.
- Treatment implications for ISH negative, IHC positive results.
- Interesting cases of IHC and FISH discordance.

Reference

1. Bilous M, Morey AL, Armes JE, *et al.* Assessing HER2 amplification in breast cancer: findings from the Australian In Situ Hybridisation Program. *Breast Cancer Res Treat* 2012; 134: 617–24.

EVALUATION OF THE BD MAX MULTIPLEX ENTERIC PATHOGEN PCR SYSTEM VERSUS ROUTINE CULTURE – RAPID AND ACCURATE DIAGNOSIS OF COMMON BACTERIAL DIARRHOEAL DISEASE

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Aims: To validate the BD Max Enteric Bacterial stool pathogen multiplex PCR system (Becton Dickinson and Company, USA; hereafter 'PCR') for Salmonella, Campylobacter and non-dysenteriae Shigella spp. against routine culture in our laboratory.

Methods: Non-consecutive stool specimens for routine culture were additionally processed into the PCR assay. The PCR was performed in accordance with the package insert. Culture was undertaken on XLD agar, Salmonella Chromagar and Campylobacter charcoal agar under routine conditions. Discrepant results were repeated, clinically correlated and had a second PCR performed, where possible.