procedure indication, and relevant endoscopic and imaging findings.

Results: We identified 52 MFC cases corresponding to 32 patients on 33 separate collection dates. Patients’ ages ranged from 29 to 74 with a male to female ratio of 2:1. Sixty-six percent had a history of transplant (solid organ or bone marrow) or prior lymphoma. Therefore, recurrent lymphoma and/or posttransplant lymphoproliferative disorder were diagnostic considerations at the time of endoscopy. Of the remaining patients, MFC was indicated based on a combination of clinical, endoscopic, and radiographic findings. Among all specimens included in the study, only 7 of 52 (13%) were diagnostic or suggestive of a lymphoproliferative disorder by MFC; moreover, all 7 positive MFC cases had material that was histologically diagnostic of lymphoma/lymphoproliferative disorder. Four of the 7 positive cases had an associated mass lesion by imaging. Notably, 2 of the 7 positive cases were acquired via endoscopic ultrasound-guided fine-needle aspiration and, therefore, had a pathologist-guided intraoperative consultation performed to augment diagnostic yield/utility of performing MFC. All 45 cases that had negative MFC were negative for lymphoma on permanent histologic sections. Final pathologic diagnoses of these cases included normal histology, disease-specific and nonspecific inflammation, and infection. Astonishingly, 8 specimens were taken from areas of the GI tract that had entirely normal endoscopic features. One patient carried an endoscopic diagnostic impression of a completely normal exam. A mass detected by imaging that was amenable to endoscopic biopsy was the biggest predictor of flow cytometric analysis diagnostic of hemolymphoid disorder.

Conclusions: In summary, MFC is noncontributory to the overall diagnosis in the majority (87%) of provider-submitted, endoscopically collected gastrointestinal mucosal biopsies. As each test costs hundreds of dollars, we suggest a new testing algorithm to enhance the pathology team’s role in MFC test utilization. This algorithm will be discussed and includes helping providers discern pretest probability of lymphoma (based on clinical history, imaging, and endoscopic exam), enhancing opportunities for on-site pathologist interpretation of samples (especially if aspirations are performed), and holding fresh samples in RPMI overnight until preliminary morphologic examination of permanent sections is performed.

Prospective Evaluation of Xpert Xpress Strep
A Automated PCR Assay vs Solana Group
A Streptococcal NAAT vs Conventional Throat Culture

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The Solana NAAT by Quidel is used in our laboratory as a substitute for backup culture on throat specimens with a negative rapid group A streptococcal (GAS) antigen assay (McKesson CONSULT Diagnostics Strep A Dipstick). The Xpert Xpress Strep A, performed on the Cepheid GeneXpert instrument, is a recently FDA-cleared RT-PCR assay to detect Streptococcus pyogenes DNA. During January 2018, 5,489 throat specimens (collected by ESwab) were tested by the Solana assay. Three hundred seventy-five positive and negative specimens were randomly selected for testing with the Xpress Strep A assay and throat culture (sheep blood agar at 35°C in 5% CO₂). Cultures were reviewed at 24 and 48 hours; all beta-hemolytic streptococci (consistent morphology, catalase negative) were purified to subculture plates and identified by MALDI-TOF mass spectrometry (bioMerieux). One hundred eighty-seven specimens were positive by Xpress Strep A and 185 were positive by the Solana. Originally, there were 6 specimens Xpress Strep A positive and Solana negative, as well as 6 specimens Xpress Strep A negative and Solana positive. After retesting by both systems, there were only 2 discordant specimens. The overall agreement for positive and negative results for the two amplified GAS assays was 99.5%. The agreement with culture (the gold standard) results for the Xpert Xpress Strep A assay was 90.1%. The sensitivity, specificity, positive predictive value, and negative predictive value for Xpress Strep A were 100%, 83.5%, 80.2%, and 100%, respectively.

Analyses of the 165 beta-hemolytic streptococcal isolates recovered by culture revealed 150 isolates of Streptococcus pyogenes, 4 Streptococcus agalactiae, 7 groups C/G Streptococcus (identified to species level by MALDI-TOF mass spectrometry as Streptococcus dysgalactiae ssp. dysgalactiae, Streptococcus dysgalactiae ssp. equisimilis), and 4 miscellaneous beta-hemolytic streptococcal species (2 Streptococcus constellatus and 2 Streptococcus anginosus). Hands-on time for the fully automated Xpert Xpress Strep A assay was 1 minute per specimen, and time to results was 18 to 24 minutes. For the Solana assay, hands-on time per specimen was 7 minutes, and time to completion was 37 minutes. Because the Xpert instrument requires that each cartridge is processed and installed separately, there is minimal to no risk of cross-contamination between specimens. In summary, the Xpert Xpress Strep A assay performed equivalently to the Solana assay and was highly sensitive. The lower specificity and lower positive predictive value were likely due to the Xpress Strep A assay having higher sensitivity compared to conventional throat culture.

Lack of Correlation Between Verifynow and TEG-Platelet Mapping in Ventricular Assist Device Patients

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Ventricular assist device (VAD) patients must maintain a precarious coagulable state, in which the patient does not
develop bleeding complications and the ventricular device does not thrombose. Bleeding is a frequent cause of admission in ventricular assist device patients, and pump thrombosis can have devastating consequences. Typically, patients are anticoagulated with warfarin with routine monitoring of INR. Aspirin is often used as an antiplatelet agent, although in some patients, P2Y12 inhibitors, such as clopidogrel, can also be used. Several assays are available for assessment of antiplatelet effect, including Verifynow, TEG platelet mapping (TEG-PM), and traditional platelet aggregation, among others. In this study, we sought to assess the correlation between TEG-PM and Verifynow results in ventricular assist device patients as a first step in determining which assay may be beneficial for guiding antiplatelet therapy. From December 1, 2016, to December 1, 2017, antiplatelet testing with TEG-PM and Verifynow was run in parallel on all VAD patients presenting to the outpatient clinic. Aspirin effect was assessed in 151 patients, with some on repeated visits, for a total of 553 measurements. P2Y12 inhibitor effect was assessed in 38 patients, with some on repeated visits, for a total of 107 measurements. Verifynow results in platelet reaction units were plotted against TEG-PM results in percent inhibition. Linear regression analysis was performed to determine correlation. Our assessment of the aspirin effect showed very poor correlation between the two tests with an $R^2$ of 0.0856. P2Y12 inhibitor effect assessment also showed very poor correlation with an $R^2$ of 0.0015. Overall, our data showed antiplatelet effect measured with two common antiplatelet monitoring devices did not correlate in VAD patients.

**Significance of Anaerobic Organisms Recovered From Cerebrospinal and Ventricular Fluid Cultures**

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A recent case of *Bacteroides fragilis* meningitis prompted our interest in assessing the utility of anaerobic (ANA) cerebrospinal fluid (CSF) cultures. At our institution, ANA CSF culture may be ordered in addition to routine aerobic CSF culture. CSF for ANA culture is plated to CDC anaerobic blood agar, trypticase soy agar with 5% sheep blood in CO$_2$, and preduced anaerobic thiglycollate broth incubated 14 days. CSF for aerobic culture is plated to trypticase soy agar with 5% sheep blood, chocolate agar, and thiglycollate broth incubated 5 days in CO$_2$. Patient clinical and laboratory data for ANA and aerobic CSF cultures from 2013 to 2017 were assessed through chart review. A total of 24 of 594 (4.0%) ANA CSF cultures from 14 patients were positive for anaerobes. Of the non-*Cutibacterium acnes* recovered from ANA CSF, 13 cultures from 4 patients were positive for the following: *B fragilis* (1), *Bacteroides ovatus* (1), *Clostridium perfringens* (1), and 1 case of perforated appendicitis grew *Clostridium septicum*, *Actinomyces turicensis*, *Eggerthella lenta*, and *Hungatella hathewayi*. In all 4 cases, anaerobic meningitis was diagnosed clinically. Eleven ANA cultures from 11 patients were positive for *C acnes*. Only 2 of 24 positive ANA CSF were indicated as ventricular fluid on the order (1 *C acnes*, 1 *C septicum*). All specimens sent for ANA CSF were also sent for aerobic culture. Of 11 specimens positive for *C acnes* by ANA CSF, 2 were positive for *C acnes* by aerobic CSF culture, and 2 were positive for aerobes. In total, 594 of 8,868 (6.7%) aerobic CSF cultures were accompanied by ANA CSF orders. Of the aerobic CSF cultures, 129 of 8,868 (14.5%) from 128 patients were positive for anaerobes; 120 of 8,868 (1.35%) from 119 patients were positive for *C acnes*.*Propionibacterium*. Nonpropionibacteria anaerobes recovered from aerobic cultures included *Actinomyces* spp (1), *Prevotella melaninogenica* (1), and *Staphylococcus saccharolyticus* (7). In 113 of 129 (87.6%) patients with *C acnes*/*Propionibacterium* recovered in culture, the isolate was clinically regarded as a contaminant. Sixteen patients with *C acnes*/*Propionibacterium* on culture had a CSF shunt or ventricular drain; 11 of 16 had shunt dysfunction. Patients with CSF shunt or ventricular drain were more likely to receive antibiotics targeted toward *C acnes* following its recovery from CSF than those without CSF shunt or drain (chi-square test, $P < .001$). Anaerobic meningitis is a rare diagnosis. Some strict anaerobes were recovered on aerobic CSF culture, and *C acnes* was not often recovered by aerobic culture. ANA CSF should be ordered in cases of suspected shunt infection or anaerobic meningitis. Presence of a CSF shunt or ventricular drain can aid in determination of clinical significance of *C acnes*/*Propionibacterium* recovered from aerobic CSF cultures. Clinicians should be further educated to order ANA CSF culture when CSF shunt or ventricular drain fluid is present or when *C acnes* is suspected.

**Assessment of Complement Interference in Anti-Müllerian Hormone (AMH) Immunoassays**

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Anti-Müllerian hormone (AMH) is a dimeric glycoprotein produced by ovarian granulosa cells and used as a marker of ovarian reserve. Since 2011, the Beckman AMH Gen II assay has been widely used in research and clinical settings. This assay was reported to be affected by complement interference due to the binding of C1q to the capture antibody, resulting in C3 recruitment and activation of complement cascade. Steric hindrance from this complex prevents AMH binding, resulting in falsely lowered values in freshly drawn or freshly frozen samples. Introduction of a sample predilution step by the manufacturer prior to incubation with the capture antibody resolved the interference by preventing complement binding. Recently,
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