ROLE OF FROZEN SECTION DURING MEDICAL SENSITIVITY OF SURGICAL PLEURAL BIOPSIES

A SURGE OF PAEDIATRIC THORACIC EMPYEMA: IDENTIFYING TRENDS AND LESSONS FROM THE UK INVASIVE GROUP A STREPTOCOCCUS (iGAS) OUTBREAK DURING 2022–2023

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Results 86 patients were identified. Median age in the post-pandemic, pandemic and pre-pandemic eras were 4.4, 6.2 and 9.9 years respectively (p<0.0001, ANOVA). 61/84 patients had sterile cultures (73%). 16S PCR assays identified bacterial DNA in 90.7% (39/43) of cases. The most common microorganisms identified were Streptococcus pyogenes (n=23, 43.4%) and Streptococcus pneumoniae (n=16, 30.2%) with viral co-infection more frequently seen with these two species; as compared with all other species (12/39, 30.8%, 3/37, 8.1%).

Most concerning was the finding of viral co-infection in 45% (5/11) of cases with necrotising disease compared with 24% (10/42) without (p = 0.2, chi-sq.). 48% (11/23) of patients required surgery (VATS/thoracotomy/decoration/resection) in the post-pandemic compared with 19% (11/57) pre-pandemic (p=0.0097, chi-sq.). Median length of stay has also increased from 8 days pre-pandemic to 11 days post-pandemic (p=0.0532, Mann-Whitney U).

To date no mortalities from bacterial empyema were reported at our centre though there were deaths from iGAS without empyema.

Conclusion Our findings highlight 16S PCR as a diagnostic tool in empyema management as culture is frequently sterile. Association of viral co-infection on outcomes was substantial, correlating with higher necrosis rates, surgical intervention and prolonged hospital-stay. This suggests immunological naiveté amongst young-children after Covid-19 may be a crucial factor in the severity of follow-on bacterial superinfection. We advise attention to viral outbreak reports in the upcoming winter-flu-season, which could signal another empyema outbreak. With good collaboration and prompt treatment, good outcomes should be expected.

SENSITIVITY OF SURGICAL PLEURAL BIOPSIES FOLLOWING A PREVIOUS NEGATIVE PLEURAL BIOPSY

Introduction and Objectives Ultrasound-Guided (USG) and Local-Anaesthetic Thoracoscopy (LAT) Pleural Biopsies are performed to investigate pleural disease. Though often sufficient to make a diagnosis, biopsies can be indeterminate or negative, despite a clinical picture favouring malignancy. Such patients may be referred for surgical biopsies. The aim of this study was to determine the sensitivity of surgical biopsies following previous negative USG or LAT biopsies.

Methods We conducted a retrospective review of patients who underwent an USG or LAT biopsies at a tertiary centre between January 2017 and June 2023. Features and outcomes of those referred to surgery were recorded, including follow-up duration, initial histology, reason for referral and eventual diagnosis.

Results Eighty-five patients underwent USG biopsies and 115 had a LAT. Following MDT discussion, 18 were referred to surgery (8 USG biopsy, 10 LAT). Initial histology in these...
were: 4 inadequate samples, 2 atypical cells, 10 benign fibrosis and 2 other benign findings. The surgical procedures undertaken included 15 video-assisted thoracoscopies, one robotic and two open biopsies. Mean post-surgical follow-up was 35.5 weeks.

Of the 18 patients who underwent surgical biopsies, there were three true-positives (all mesothelioma), four false-negatives (diagnosed with mesothelioma during follow up; 3 following USG biopsy, 1 following LAT) and 11 true-negatives (benign pleuritis). The sensitivity of a surgical biopsy for mesothelioma following a negative USG Bx or LAT was 42.9% (figure 1). The sensitivity of USG or LAT biopsies, for a malignant or non-malignant diagnosis, was 91% for either investigation.

All 4 with inadequate samples and both with atypical cells at initial biopsy were diagnosed with mesothelioma (3 at surgery, 3 during follow up). None of three patients with anterior mediastinal pleural thickening were diagnosed with a malignancy.

Discussion Surgical biopsies in a general cohort are highly sensitive (>0.9). Our findings suggest they are significantly less sensitive in those who with prior negative USG or LAT biopsy. However, sensitivity was good in the subgroup of patients with inadequate samples or atypical cells at initial histology. Further studies are required to devise the optimum pathway for investigating possible mesothelioma following negative USG or LAT biopsies.

'Shake it off’ – Recovery from COVID-19

Background The medium and long-term impacts of COVID-19 in patients with pre-existing airways diseases are unknown.

Aim To assess recovery, burden of symptoms and HRQoL in COVID-19 survivors with pre-existing airways diseases up to 1-year post-hospitalisation.

Methods PHOSP-COVID is a large prospective multi-centre UK study of hospitalised COVID-19 survivors who attended 2 research visits at 5-months & 1-year post-discharge. Recovery assessed by answering ‘Do you feel fully recovered from COVID-19?’ Burden of symptoms assessed using validated questionnaires (GAD-7 for anxiety and PHQ-9 for depression) and a study specific Patient Symptoms Questionnaire (PSQ) with a numeric scale of 0–10 to evaluate burden of breathlessness, cough and fatigue. HRQoL assessed by EQ-5D-5L Utility...