Session: P-73. Respiratory Infections - Bacterial

Background. Pleural empyema from Streptococcus milleri (SM) is often complex and requires a combination of surgery and intravenous (IV) antibiotics. There is a paucity of data on the efficacy of oral (PO) treatment due to concerns about the development of resistance, particularly to fluoroquinolones (FQ). We report outcomes of postoperative antibiotic treatment for SM empyema over 3 years, including PO therapy.

1306. Early Transition to Oral Antibiotics, Including Fluoroquinolone Therapy, for Streptococcus milleri Empyema Following Video-Assisted Thoracoscopic Surgery

Anais Ovaille, MD, MD1; Ahmad Alsalam, MD2; Timothy Millington, MD2; Richard A. Zuckerman, MD, MPH1; Dartmouth-Hitchcock Medical Center, Lebanon, New Hampshire; dartmouth hitchcock, Lebanon, New Hampshire

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Methods. A single-center retrospective chart review was performed of 20 patients treated with video-assisted thoracoscopic surgery (VATS) from October 2015 to March 2018 and SM diagnosed by thoracentesis or operative culture. We reviewed clinical factors, route and duration of antibiotics, complications (empyema recurrence, repeat surgery, 30-day readmission due to empyema), and mortality (30-day and 1-year).

Results. Of the 20 patients, 12 (60%) received all IV and 8 (40%) transitioned to PO therapy (Table 1). Median age was 60 and 58 in the IV and PO group, respectively. IV treated patients had more comorbidities. Cultures were primarily monomicrobial. Isolates tested were susceptible (S) to penicillin (Table 1). Of 10 tested specimens, all had moxifloxacin MIC < 0.19 μg/mL and 8/8 specimens tested were S to levofloxacin. The average duration of antibiotic therapy in the IV group was 34 and 32 days in the PO group. There were no complications in the IV group; however, there were 2 deaths (1 patient died from comorbid complications and 1 patient was readmitted and died due to MSSA endocarditis). There were no complications or deaths in patients treated PO.

Table 1. Characteristics and outcomes in Streptococcus milleri infections following video-assisted thoracoscopic surgery treated with IV or PO antibiotics

| Parameter | IV (n=12) | PO (n=8) |
|-----------|-----------|---------|
| Median Age (years) | 60 | 58 |
| Average Total Duration of IV/PO antibiotic therapy after surgery (days) | 34 | 32 (5 days IV / 27 days PO) |
| Organisms on culture | 11/12 S. milleri monomicrobial | 8/8 S. milleri monomicrobial |
| Susceptibility data (of those tested) | 12/12 S t penicillin | 7/7 ≤0.5 t penicillin |
| Antibiotic treatment | 11/12 IV ceftriaxone | 11/12 IV amoxicillin-bacampicillin |
| Readmission | 1* | 0 |
| Complications | 1 death | None |
| Mortality | 2 deaths* | 0 deaths |

*1 death from comorbid complications and one death from MSSA endocarditis months later

Abstract References

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Conclusion. Our review suggests that early transition to PO antibiotics may be a viable option for operatively managed empyema caused by SM in certain patients. FQs have been generally avoided due to concerns about the rapid development of resistance that has been shown in vitro; however, no in vivo data have been reported regarding this concern. We show excellent outcomes with the use of PO therapy in susceptible isolates, particularly FQs, with no failure or reported resistance in patients with SM empyema treated with VATS. Further study is needed to validate these findings and determine optimal patient characteristics for transition to PO therapy.

Disclosures. All Authors: No reported disclosures

1307. The Mycoplasma Conundrum

Kenneth Rand, MD1; University of Florida, Gainesville, FL

Session: P-73. Respiratory Infections - Bacterial

Background. Lockdown for Covid 19 between March 15 - 30, 2020 lead to sudden closures of schools, public gatherings, all but essential businesses, and stay-at-home orders. Between them and the end of April 2020, literally all enveloped respiratory viruses declined to virtually undetectable levels, suggesting a successful interruption of transmission. Weekly percentage positivity rates for M. pneumoniae and all other respiratory viruses in BioFire Syndromic Trends for weeks ending 3/7/2020 - 4/24/2020.

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Weekly percentage positive rates are shown, with the Rhinovirus/Enterovirus rate divided by 3 and the M. pneumoniae rate multiplied by 10 to fit on the same scale.

**Methods.** We used the percentage positivity rates from BioFire Syndromic Trends and from GenMark Diagnostics to examine the post lockdown response of M. pneumoniae versus other respiratory viruses on the Respiratory Virus Panel (RP 2.0)

**Results.** As has been reported (Navrocki J, et al, OFID 2021) and as shown in Figure 1, there was a rapid drop in the positivity rate for all enveloped respiratory viruses by 85.6% from an average rate of 2.04% positive for the week ending 3/14/20 to 0.29% for the week ending 4/18/20, while the positivity rate for M. pneumoniae actually increased by 44% from 0.536 % to 0.772%. The increase in M. pneumoniae positivity rate from its baseline of 0.51 ± 0.38 between 1/25/20 - 3/2/20 vs 0.71 ± 0.09 between 3/28/20 - 4/25/20 was significantly higher by t test, p=0.00574. Data from GenMark was available only monthly but also showed an upward rise from March to April, 2020.

**Conclusion.** It is well documented that M. pneumoniae is transmitted through respiratory mechanisms, yet lockdown measures sufficient to dramatically reduce ordinary respiratory virus transmission had no comparable effect on transmission of Mycoplasma pneumoniae. It is also well known that M. pneumoniae persists in the respiratory tract as long as months after an infection. Therefore, it is possible that this reservoir continued to be a source of transmission for M. pneumoniae, even though lockdown measures effectively interrupted the enveloped respiratory viruses.

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