Pseudomonas aeruginosa (Psa) – a review of seasonal patterns and symptom presentation for first and new growths

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Objectives

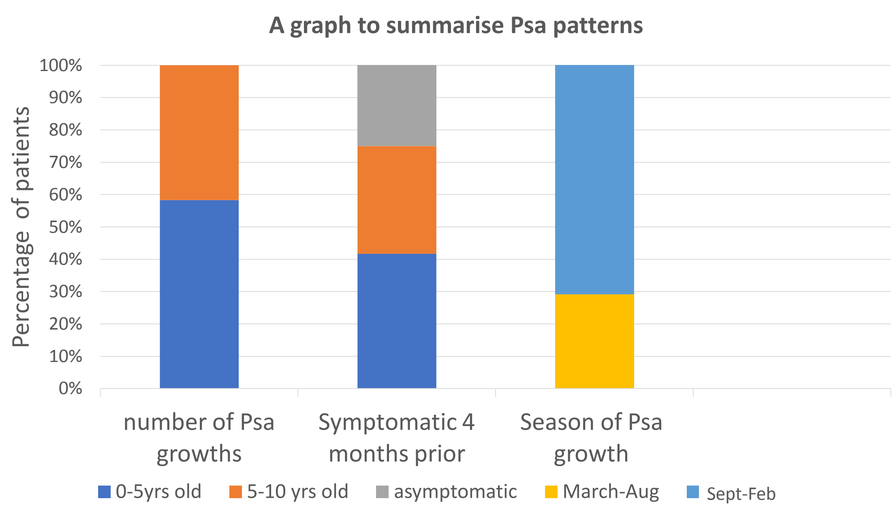
- To identify whether there was any difference in the timing of Psa acquisition depending on the seasons in pre school and older children/young adults.
- To identify whether there was any pattern of symptoms prior to acquisition that could be highlighted as a pre-cursor to the increasing likelihood of Psa being cultured.

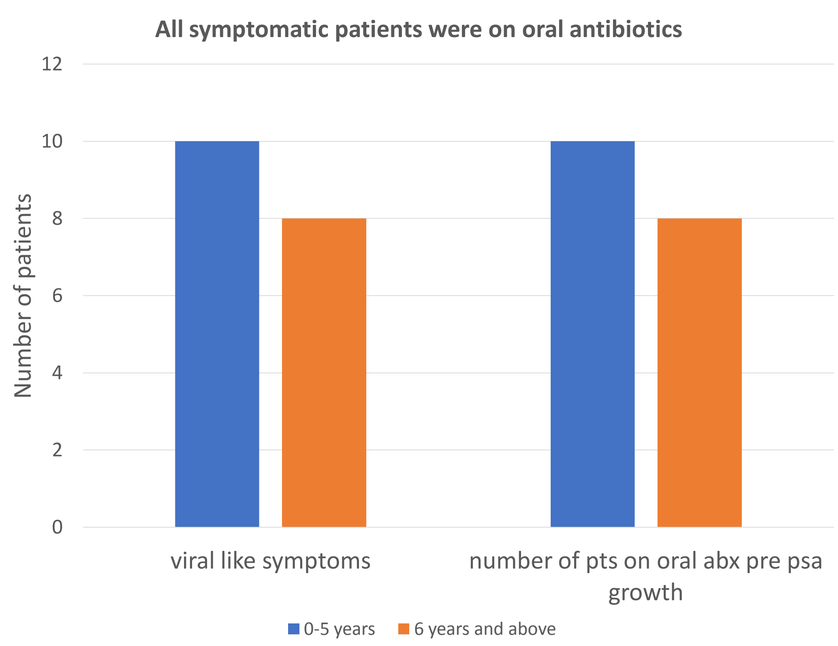
Participants

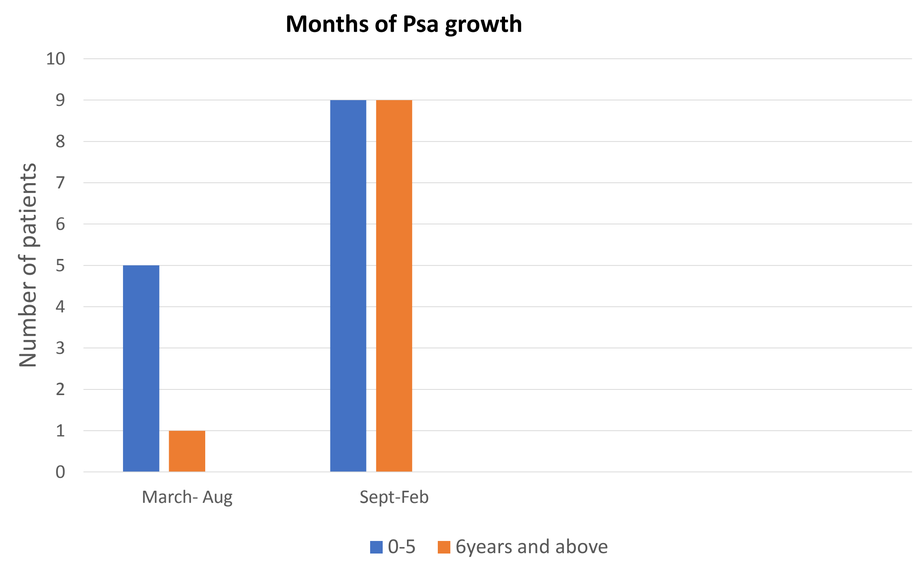
- Data collection included patient age at growth, 4 month symptom history prior to the growth and use of oral antibiotics prior to growth.

Methodology

- A retrospective review of all CF patients (0-18 years) under the direct care of RMCH who had a first growth of Psa or new growth (following a period of being clear for 12 months off treatment) between January 2021 and December 2022 was carried out.
- All growths from cough swab samples or sputum samples were included.
- Data collection included patient age at growth, 4 month symptom history prior to the growth and use of oral antibiotics prior to growth.







Results

- 24 patients were identified for inclusion with 58% of the growths occurring in the 0-5 year age group. With a total of 62 patients in this age group cared for at RMCH this amounts to 23% of that population having a growth of Psa during the 2 year study period.
- 75% of the patients were symptomatic prior to acquisition which were preceded by viral like illnesses and had completed 1 or more courses of Co-Amoxiclav.
- 70% of the PsA growths were between the months of September and March.

Conclusion

- A larger proportion of Psa growths occurred in the Autumn and Winter seasons than in Spring and Summer.
- The majority of patients (75%) had viral like illnesses including a cough prior to acquisition of the Psa.
- As a proportion of the RMCH cohort a significant number of new growths were in the under 5 year group.

Further Study

- Further study is required to determine whether there would be any benefit in carrying out an induced cough swab or sputum in patients with a cough that is not responding to oral antibiotic including those patients presenting with a more viral history.
- It could also be beneficial to carry out increased viral screens in clinics, especially in the Autumn and winter months, to determine whether the presence of any specific viruses increase the likelihood of Psa acquisition.
- Given the large number of growths in the under 6 year group further study to determine if this a new pattern of growths and potential causes would be worthwhile.