Supplementary Files

Supplementary File 1: Topic Guide

Introduction

Today I am going to ask you questions about using a test called C-reactive protein (CRP) to help guide your decisions about whether to prescribe antibiotics in adults who present to you with upper or lower respiratory tract infections. This would be a finger-stick blood test that would be performed as a point of care test in your own laboratory and would provide a value for CRP within several minutes. A high CRP level is more likely to indicate a bacterial infection, whereas a lower CRP level is more likely either to be viral or no infection. Several studies in other countries suggest test may help clinicians improve the targeting of antibiotics for respiratory infections. We would like to hear your views. There are no right or wrong answers to any of the questions. We simply want to hear about your experiences and opinions of use of CRP POCT for patients who present with upper/lower RTI.

General opinion about using tests for upper or lower respiratory tract infections

What kinds of tests or procedures (if any) do you currently use to help you decide if a patient might benefit from antibiotics? (Prompt – for example rapid strep, blood tests, pulse oximeter, chest x-ray etc. Also prompt – is it different for upper and lower respiratory tract infections?)

Do you feel pressure from patients to prescribe antibiotics even when you don't feel medically it is justified? How do you manage patient expectations currently?

Are you aware of pressures related to antibiotic use/stewardship programs that currently affect you or monitor your antibiotic prescribing?

Knowledge about CRP in general

Have you ordered CRP tests from the lab for any reason at all? What have you used this test for in the past? (*Prompt* – How often have you used this test? Have you used it for infections, rheumatological or other conditions?)

Have you ever used a CRP test from the lab to help you guide antibiotic prescribing for patients with upper or lower respiratory tract infections? (*Prompt* - perhaps used when you were doing residency training in a pediatrics hospital? Or where did you use it?)

Have you heard about a point of care version of the CRP test? (*Prompt* - if you have, in what way did you hear about this, or read about it, or experienced it?)

Potential for using CRP point of care test in your clinic

If a point of care CRP test could accurately distinguish between viral and bacterial causes of upper and lower respiratory infections, what impact would this have any impact on your clinical practice?

Can you think of any barriers and facilitators there would be to introducing point of care CRP testing for respiratory tract infections in your clinic?

What impact, if any, would point of care CRP testing have on antibiotic prescribing?

Are there any clinical scenarios where point of care CRP testing would be beneficial / not beneficial?

What impact might point of care CRP testing have on your relationship with patients, or patients' experience, or their desire to consult for respiratory infections in your clinic?

What information do you and other clinic staff (e.g. lab techs, MAs, administrators) need about a point of care CRP test before you would be comfortable introducing this test in your clinic? (*Prompt* - cost, safety, accuracy information). How would you want this information communicated?

We've come to the end of our discussion. Is there anything else we have not covered that you would like to add about point of care testing?

Supplementary file 2: Participant quotes illustrating themes

Theme 1: Potential clinical role(s) for CRP POCT	
Q1	*"Sometimes you're like, maybe two days from now I'm going to give you antibiotics, but I'm not going to give you the antibiotics today, and if there was a test that could reassure me that it was still so low probability right now that I could feel more confident" (C4, S1)*
Q2	*"I still sometimes feel pressure for antibiotics, but less, a lot less than a decade ago" (C1, S5)*
Q3	*"It took longer to convince them that they didn't need antibiotics than just write the script and let them go. […] but I would take the time to explain to them and it would push me behind sometimes […], this is why I'm not giving you antibiotics" (C3, S3)*
Q4	"*If there was a quick test that was like, looks concerning then it would at least allow me to give the patient real information. To say like – I'm concerned, maybe I'm not going to do this but I definitely do need to see you back tomorrow. […] I think sometimes patients are okay for you to say, okay you're not going to give me anything today, but you're not just going to say to me like, you're not really sick. That is what they hear, you're not sick, go home we have nothing for you. And you can instead say, […] it's not clear enough to me that you need antibiotics, […] let's talk again tomorrow*" *(C4, S1)*
Theme 2: Concerns related to implementation	
Q5	"*So they could have rheumatoid arthritis in the setting of something else…and you would have that falsely elevated*" *(C2, S4)*
Q6	*"My biggest reservation about the CRP test is that it's very non-specific. So you can have a viral infection with a high CRP" (C2, S5)*
Q7	"*If you take that section of people, which is really the majority of people that you're just really clear you're not going to be prescribing an antibiotic, and you apply a test that isn't perfect, you'll have a certain section of that population that suddenly gets antibiotics*" *(C1, S5)*
Q8	"*And it's going to be really hard to say at the end of that, however, even though this is positive…I actually don't think you need it [antibiotics]*" *(C1, S5)*
Q9	"*I could think of patients who clearly have an upper respiratory infection, they'd have no clinical signs that it would be bacterial and they'd be demanding this test to prove that they don't have a bacterial infection*" (C3, S3)
Q10	"*If it's laborious to administer and interpret, that will kill it*"
Q11	"*We have major barriers where it's like, what kind of insurance and do they have insurance and are they documented. And we order a different chlamydia/gonorrhea for each person. So if we had a point-of-care, we would need it to be pretty cheap to use in our immigrant uninsured population*" *(C3, S1)*
Q12	"*It could be a money saver for us, because Zithromycin is not inexpensive and we subsidize a lot of prescriptions that go out of here. It might be less expensive to do a CRP…" (C4, S2)*
Theme 3: Evidence needed prior to implementing	
Q13	*"What's the miss rate, in terms of how many people are you going to have that actually have an illness and you miss it because the CRP was negative, and on the*

	other side, how many people are going to have an elevated CRP and you give them antibiotics and you really didn't need [to]" (C3, S3)
Q14	*"I need some timeline. I want to know how quickly I think it's going to be positive […] I want to see the graph of how quickly and how differently positive it's gonna be if it's viral versus bacterial, and how long that's gonna last" (C4, S1)*
Q15	"*If there was one good study that correlated with all of the studies that have been going on in Europe, that's what it would take. Not five years of utilizing it before we get around to it*" *(C1, S2)*