When I saw the title of this talk I thought well, perhaps I have underestimated how complicated the diseases are that I take care of or my abilities have been overestimated because that’s a lot to do in 40 minutes. But the community does send me a lot of vasculitis patients so what I thought I would do this morning is spend some time talking about cases. I think most of you are very savvy in recognizing signs of vasculitis based on the referrals that I get but there are a lot of complicated management issues that confound all of us who take care of these patients. So I selected some sample cases that have caused us some thought that I think illustrates some important points in taking care of these patients. And I’d like this quote, education is when you read the fine print, experience is what you get if you don’t so I’m going to share with you some of my experiences in taking care of these patients and hopefully that will become your education.

So this morning we’ll start with four different case presentations which will give you some general information, not a lot, I think that you are pretty savvy with this talk about diagnosis, where serologic testing fits into this, imaging and tissue pathology, looking at a few points on immunosuppressive therapy. You certainly don’t need to know all the intricacies of this but some general things about monitoring patients, managing patients on immunosuppressive therapy and complications that you’re likely to see when you see these patients in the outpatient or even the inpatient setting and then a brief summary.

So first of all as a review, what is vasculitis? Well it’s not just one specific entity, it’s a group of chronic inflammatory diseases, we don’t know what causes vasculitis, there are a lot of theories and
hypotheses about infection triggering the immune system but today we don’t have one target pathogen that’s been identified. We know it is an immune-mediated injury directed at the vessel but we also know that the vessels response to this attack is equally important in causing the consequences of vasculitis. It can target any organ or tissue and oftentimes it does, it is a multisystem disease in the majority of patients and what makes it challenging for all of us who take care of these patients is that in any one person vasculitis is a unique entity.

So common things to these diagnoses. Vasculitis is often challenging to diagnosis. If you look at any of the vascularities, there really is no gold standard for diagnosis. We talk about obtaining tissue and we certainly are very aggressive about doing that when we can but even a tissue diagnosis of vasculitis is not necessarily from rheumatologic cause. There are many, many diseases that mimic vasculitis which I’m sure you know.

And then when you’ve identified patients with vasculitis, the treatment for vasculitis is quite good and we’ve done very well in decreasing disease associated morbidity and mortality but unfortunately the treatment comes with a lot of side effects and complications and indeed looking at small vessel vasculitis where patients used to die at about 90 percent within the first year of diagnosis, now have about 5 percent mortality at 10 years, you find that the most common cause of death in these patients is infection which speaks to what happens when we treat these patients.
So in treating the how do you time therapy? When do you transition them from the more aggressive chemotherapy to less toxic therapy and still decrease the risks of relapse and how do you deal with side effects and prevent treatment associated morbidity.

So starting looking at diagnosis. These are patients that I have seen and taken care of. The first consultation was for management of immunosuppressive therapy. And this was a 60-year old white female who had a diagnosis of granulomatosis with polyangiitis or GPA which as many of you probably know is the new terminology for Wegener’s granulomatosis, Wegener’s falling out of favor because of Wegener’s association with the Nazi party. One thing that always bothered me was the fact that he actually did not, was not the first to describe the disease, one of his medical students was and he took the cases and named it after himself but this was also another mitigating factor and probably between the two of them, not an unreasonable reason to change the name.

Anyway this woman presented with a long history of chronic sinusitis and allergies which later went on to develop fatigue, malaise, night sweats and cough. She had a cavitory lung lesion, they obtained sputum which had negative cytology, she had a very high titer C-ANCA so far all of this sounding very good correct? So she was placed by the initial consulting team with high dose steroids and cyclophosphamide but shortly into her course she developed candidal meningitis. And at this point we were consulted to see her. So when I see these patients initially and when you see these patients in the hospital or in the clinics I think one of the first questions you should ask before you go on to manage their disease is – is the diagnosis correct? This is one thing one of my preceptors beat into
me as a fellow and it used to drive me crazy at first but after a while I figured out why he made such a big deal about this because many times patients who come to you with a specific disease diagnosis aren’t correctly diagnosed.

And then once you’ve established that the diagnosis is what you think it is, are they on current therapy that’s adequate for their disease? Are there other coexisting conditions that they have that might impact their treatment? And other housekeeping issues about treatment, are they being properly monitored for drug associated toxicity and getting blood work regularly as they should, getting bone density scans if they’re on steroids, etc.

So when we saw her we said well, the constitutional symptoms certainly fit but they’re not nonspecific, her respiratory tract manifestations, chronic sinusitis, cavitary lung lesion certainly could be consistent with Wegener’s but if you look at cavitary lesions and other possible causes, we really should have a more broad differential diagnosis at this point especially without any tissue. She was, biopsy had been discussed in her but when she was found to have a high titer C-ANCA the team had opted not to do that. And I’m looking what can cause ANCA. Certainly GPA, frequently associated with ANCA more often PR-3 or C-ANCA then MPO. Other small vessel vasculitides that I have highlighted here, pulmonary tuberculosis has a fairly high prevalence of ANCA positivity even C-ANCA as well as pneumonia and even other diseases like lupus.
So as our routine practice we reviewed an extensive history and I will say that this was one of the last questions we asked her as we were leaving the room, oh, by the way have you ever had a positive PPD and as a matter of fact she had. She had taken about a month of INH the previous year, decided to stop because she doesn’t like taking it so we took her off of immunosuppressive therapy, got a bronchoscopy and she actually had pulmonary tuberculosis.

And I do like pneumonics, I thought this one for cavitary lesions was nice and certainly we see a lot of this especially in patients who are hospitalized so C of course carcinoma most of us think of that in patients, especially with the solitary pulmonary lesion. Autoimmune causes, in addition to small vessel vasculitis, sarcoidosis, Goodpasture’s disease can be associated with cavitary lesions. Vascular causes, a bland or septic embolization can cause cavitary lesions. Infection as in this patient, pulmonary tuberculosis, traumatic lesions and in young patients congenital causes, certainly less common but if you see a patient in their teens or early twenties you might think about that.

So in thinking in general about approach to a patient like this, history obviously was the key in this woman who gave us the history of positive PPD. But in other patients who may not have had PPD testing, history of exposures or the time course of how this has evolved can be helpful. Examination for the other stigmata vasculitis obviously if you see a vasculitic rash, purpura petechiae that would point you in that direction, but again vasculitis can be for more than just autoimmune causes so that should be kept in mind.
Laboratory studies can be helpful, tissue cultures and biopsy, here was the key to establishing the correct diagnosis and I think one of the dangers of using autoantibody tests to help you make a diagnosis sometimes makes you terminate your investigations prematurely. And in this case, even though she had a very high C-ANCA titer which could have been consistent with GPA, obviously it was positive for another reason.

Just a few words on serologic testing in vasculitis, ANCA positivity as I mentioned, small vessel vasculitis but also in other forms of autoimmune disease, lupus, Sjogren’s, scleroderma patients can have ANCA associated disease and even a secondary vasculitic process. ANAs can be seen in all forms of vasculitis even in primary vasculitis and as you know as patients get older ANAs can be present even without rheumatologic disease.

Rheumatoid factor can be a confounder in these patients. About half of patients with GPA and about a third of patients with Churg-Strauss will have a rheumatoid factor. So if you have a patient who presents with constitutional symptoms and inflammatory polyarthritis sometimes you might start down the wrong pathway, something to keep in mind. Of course rheumatoid factor in chronic hepatitis patients often seen and oftentimes how we make a diagnosis of hepatitis C. And phospholipid antibodies, we have seen in a number of rheumatologic conditions including vasculitis.

It’s a rare patient with systemic vasculitis that has a normal or low white blood cell count or platelet count. The majority of these patients have leukocytosis and thrombocytosis as part of the acute phase
response. So if I see a patient who has thrombocytopenia or leukopenia I think about other diseases initially.

Second consultation I saw when I was a Fellow and we were asked to get this patient pulse steroids for a diagnosis of systemic vasculitis. This was a young woman, she was a 43 year old white female who came in with no significant past medical history other than 3 to 4 months of progressive fatigue. Family told us that she hadn’t been feeling well, she hadn’t been doing as much, had lost about 25 pounds, had seen her primary care doctor without any diagnosis made. Was told that she had some problem with her liver and was supposed to have further investigations of that but had not had it to date and had just felt kind of achy and generally sore.

So we met her in the CCU, she presented with acute mental status changes, a very fine petechial rash and acute myocardial infarction by both enzyme and EKG changes. Because of the mental status change she had a brain MRI which showed white matter lesions and significant edema and on serologic testing from the on site hospital she had high titer P-ANCA, high titer ANA, high acute phase response and elevated liver enzymes and they asked whether she had microscopic polyangiitis, polyarteritis nodosa certainly with severe multisystem disease and the presence of multiple autoantibodies, vasculitis should be considered.

And this is indeed how we meet many of our patients in the ICU. It is not uncommon for us to start treatment while the workup is in progress. You may not have the tissue diagnosis, you may not be
absolutely 100% convinced what you’re treating but in somebody like this with brain and heart involvement you don’t really have the luxury of time, waiting to see what’s going to happen before you start them on therapy. We do use steroids in this setting but we don’t add secondary agents like cyclophosphamide, Rituximab, Imuran, methotrexate, really until you’ve established the tissue diagnosis and what we do remind teams when they offer questions for these agents – is that when you’re giving adequate doses of steroids those are enough to address the disease and get the disease under immediate control, which is the steroid sparing agents that are needed for long term treatment to minimize steroid associated side effects and toxicity.

If you give empiric treatment such as in this patient where they were asking for pulse steroids, you do need to have a plan to establish the diagnosis. If you give steroids for long enough any test that you do down the road whether it be serologic tests, tissue biopsies may become nondiagnostic with treatment and then you’re kind of left in a bind where you have a patient who’s seriously ill who you’ve treated empirically that you really aren’t certain what you’re treating.

So when we saw this woman our differential diagnosis included the following: primary systemic vasculitis, hypercoagulable state, certainly a patient with catastrophic APS could present with multiorgan failure, another connective tissue disease with secondary vasculitis, those of you who care of lupus would know this would not be an uncommon presentation for patients with very severe active multisystem lupus, sepsis with septic emboli who present like this, some type of drug
induced phenomenon such as cocaine or even aortic dissection with embolization, certainly lower on our list but we’ve seen patients who’ve presented similarly.

So we did agree with pulse steroids, she was taken to the cath lab and found to have acute coronary occlusions. Her cultures were negative for any infectious source. We did do further evaluations but really what confirmed her diagnosis was a skin biopsy of one of these nonspecific lesions which was metastatic cancer and she was found to have disseminated breast cancer.

So at least in thinking about these two cases, what I’d like to remind you and perhaps this is one of the most important points is that there are no serologic tests to establish the diagnosis of vasculitis. And we have to remind ourselves as we take care of these patients as well if you hang your hat on a blood tests alone you’re going to be wrong and probably not infrequently. ANCA and other autoantibody tests can often be positive in conditions other than vasculitis and as you can see in these two cases they could lead you down the wrong pathway and they did.

History when you can obtain it is a critical part of diagnosis, in the second patient perhaps not so helpful, that implied a more chronic course, multisystem illness but it didn’t point you towards cancer although we did find from the family that she had never had any type of health screening done. And again in these two cases I think the point is well illustrated that when you are able to obtain tissue even if it involves being more invasive with these patients, it’s essential and critical part of establishing the diagnosis.
And in the two cases refer to refractory disease. Oftentimes patients, you’ll see your patients that will be sent to us – why isn’t their treatment working, do we need to give them more steroids, what should we do. So this is an interesting gentleman that I saw who was sent to us for refractory giant cell arteritis. A 62-year old white male who was an ophthalmologist and he was being treated the partners in his practice. He did very well with steroids initially and as his steroids were being tapered, he developed blurred vision in his left eye. He was down to a dose I think around 20 mg so when he went in and talked to his partners they gave him pulse steroids again and really his vision didn’t get any better so he came to see us for another opinion and to ask if he needed additional medical therapy.

So when we see a patient like this we ask ourselves well why are they failing therapy? And there are a few things that you think about off the bat. Maybe they’re not getting treatment that’s adequate for their disease. Patients that you were initially treating with low doses for polymyalgia rheumatica who go on to develop giant cell arteritis, obviously their steroid requirements are higher for disease control, that doesn’t apply in this case but this is oftentimes what we see in other cases. Or patients who have limited disease, patient who has just upper respiratory tract manifestations of GPA who goes on to develop renal disease.

Tapering steroids to quickly is a common error in treating patients with systemic vasculitis. Most patients require steroid therapy for four to six months with very conservative tapering regimen
otherwise to ___ the disease flare. But this gentleman had a fairly standard tapering regimen, we didn’t think that that was the problem.

And the other issue is again going back to the first two cases, do you have the wrong diagnosis. Are you treating the patient for something that they don’t have and hence they’re not responding to therapy as you’d anticipate. High dose steroids cure a lot of ills and make people feel better but don’t necessarily take care of infectious diseases or cancers or other things. And the other thing to think about that we’ll talk a little bit more about is, have you developed a complication of therapy that’s the problem rather than the disease.

So how do you diagnose a disease flare. Well you look for recurrent symptoms and this gentleman did have visual disturbances as the initial manifestation of his giant cell arteritis so this is a reasonable thing to think about. These patients oftentimes will have an increase in their acute phase reactant, elevated SED rate and CRP, not always but often. If we see those markers elevated to an asymptomatic patient it isn’t necessarily a reason to increase their therapy, it does make us watch them a lot more closely and oftentimes evaluate them a little bit further if these continue to rise even if the patients feel well. And in this gentleman, to think about when they have symptoms. Most often if you increase their steroids especially in giant cell arteritis, they get better very quickly.

So how do you treat these patients? Well as you know they either get pulse steroids if they have visual disturbances or stroke or other catastrophic manifestations. For less acute manifestations
they’ll get 40 to 60 mg a day. We know that other steroid sparing agents don’t work for GSA. This is one of the questions he had for us and we had to tell him well depending on what we find you may buy yourself more steroids or not, we just don’t have other good drugs for this disease and these patients because of their long term commitment to steroids in most cases we do get a baseline DEXA and prophylaxis for osteoporosis.

We usually keep them at their initial dose for about a month, as I mentioned tapering is usually pretty conservative, this is just usually what we do 5 mg a week until down to 20 mg a day and then going down much more slowly than that. Of course monitoring them in the meantime for signs or symptoms of recurrent disease.

So when we talked to him, he really had no other symptoms that were suggestive of active giant cell arteritis, we checked his acute phases after pulse steroids, as you might imagine they were normal. And we sent him to one of our ophthalmologists who did fluorescein angiography which revealed central serous retinopathy which as you may know is a rather common complication of steroid use. So the steroid pulse really didn’t help him in this regard, possibly retarded his improvement and as he was tapered off steroids his vision did get better.

So as a reminder when you see these patients if they complain of visual disturbances of course you think about activity of their giant cell arteritis but other things you should think about are steroid associated side effects, acute angle closure glaucoma, you’re treating a lot of older patients, they
may have glaucoma to begin with, cataract development, this is usually more subacute visual changes, hyperglycemia, we have put patients into diabetic coma with steroids and of course CNS infection. Patients on steroids even without steroid sparing agents are at higher risk for infection and at high doses of steroids they’re at risk for opportunistic infections. We’ve seen giant cell arteritis patients with fungal infections, with herpes encephalitis, many other nasty complications of therapy. So this should kept in mind.

And these patients are at risk for stroke from their vasculitis or as older patients they are at risk for atherosclerotic complications. So when we see these patients and when you see them in the office, this might be an approach that you take. This is usually what I do. They have established GCA. I’m convinced of their diagnosis, they tell me they have visual disturbances, really nothing else to hang my hat on, they get more steroids that day. They may be admitted to the hospital. We have them see ophthalmology that day. They get vascular studies considering stroke being a very high risk in these patients. They get imaging of the brain and if you’re concerned about infection then they get lumbar puncture usually that day.

The last patient we’re going to talk about this morning is a complicated young man that I saw several years ago and he found me on the Internet and came to me for treatment of bad GPA. So he was diagnosed about a year and a half before I saw him when he presented with severe refractory sinusitis and epistaxis, recurrent otitis media which should raise the concern for GPA in an adult, adults with recurrent ear infections, not a normal thing if they’re immunocompetent. And certainly a
reason that we get a lot of referrals especially from ENT an initial diagnosis for GPA. He was found to have multiple small pulmonary nodules on imaging, he had a high titer C-ANCA. And he had a nasal biopsy with granulomatous vasculitis, he also had a BAL that failed to reveal any infection.

So he was initially treated with pulse steroids because of the severity of his disease. He did not want oral cyclophosphamide which at that time was standard of care for vasculitis, he opted for intravenous cyclophosphamide for convenience sake and we know that’s – as an aside that’s equally good at inducing remission but not as good with keeping these patients in maintenance, they’re more likely to flare and relapse if they don’t have the daily oral.

So his sinusitis got better, his pulmonary nodules didn’t and after he’d been on treatment for about 3 months he developed a cough, fever, joint aches, muscle pains, he had a repeat CAT scan at that time and had enlarging cavitary lesions, his doctor at the time gave him antibiotics, rightfully concerned about infection and his constitutional symptoms all pretty much went away.

Following that there was concern that his disease was active and we know that these patients can have a flare of disease at setting of infection. So he got another course of high dose steroids, they actually increased the dose of the Cytoxan and he got infusion and he felt good for a few weeks. He was working full time, he had a family, doing well. But then over a few weeks he started just to feel bad again with fevers, aches, night sweats. He got scanned again and he had cavitations that were getting larger. The sinus drainage was worse, his congestion was worse, he had a bronchoscopy with
a BAL, it was thought to be contaminants so his doctors at that time told he needed more steroids and we’re going to put you on oral daily cyclophosphamide and at that point he came to me just to see what I thought.

This is what his CAT scan looked like and I think most of you don’t need the arrows to see how abnormal the scan is. He had multiple cavitary lesions with a very large lesion on the right. So again going back to reasons for treatment failure. Was I convinced of his diagnosis, I was. Did I think his treatment was adequate for his disease severity, absolutely. Did I think he was compliant, while he was getting intravenous treatment which sort of makes it more likely he was very ___ when I saw him so I believed he was taking his steroid. And really since he was still on high doses of steroids and had been for months the tapering or tapering too rapidly, not the problem.

So in thinking about his case, did he have severe disease that was refractory to treatment, there’s a very small subset of these patients who require more aggressive treatment but he’d been getting very good treatment. I thought the most likely possibility was another co-existing process that was driving this. Could he have superimposed infection? Certainly considering all the immunosuppression he was getting that seemed rather likely. The cultures with contaminants we’ll get to in a minute. Could he have had pulmonary infarction with necrosis, absolutely. You know these patients are at a higher risk for thromboembolic disease, tissue factor release, vascular damage, fairly high incidence of DVT and associated thrombotic complications of patients with
active disease. Could he have a malignant process? Well that certainly seemed less likely, his age, his short course of cyclophosphamide really nothing to say that that was the primary problem.

So despite the thought that he had more active disease my biggest concern was for infection so I stopped his cyclophosphamide and when I looked at his culture results, these contaminants that they described really were anaerobes that were common oral flora and also very common in patients who had cavitary lesions, they like cavitations, they colonize there, they become pathogenic in an immunosuppressed patient. So I sent him to infectious disease, I saw him in the afternoon, infectious disease saw him the next morning just by coincidence he ended up in my husband’s clinic and he said you know you were talking about a guy who was pretty sick, I think that guy is the one in my clinic, you need to call me now and certainly it was.

So we know these patients are at increased risk, well why do they have problems with infection, well they get damage to their respiratory tract, you have mucosal factors that help protect you from these pathogens and with all the damage he’d had to his sinuses, upper and lower respiratory tract, he was a set up for developing an infection. He was getting lots and lots of immunosuppressive therapy. There’s good data that steroid doses over 7.5 mg a day significantly increase your risk of infection and he’d been getting in the neighborhood of 40 to 60 mg a month.

In a European study about 41% of patients had severe infection and in their cohort half of the deaths occurred as a result of infection and in the U.S. even now 30% die from infection. And although we
know there are risks for normal pathogens and you certainly think about him, he had three small children at home, they bring home a variety of pathogens, you have to worry about opportunistic infections when you’re treating these patients with these type of medications. PCP pneumonia although that doesn’t apply based on his CAT scan, herpes, fungal, microbacterial infections and as you’re giving these patients high doses of steroids you have to realize too that a lot of the normal responses that you might see, fever on 60 mg a day of Prednisone is less likely and if I see it in a patient who’s on that much steroid, it really, really makes me worry.

And as I briefly mentioned in patients who get an established infection because of immune activation they’re at risk for disease flare so oftentimes you get that as a complicating factor with an infection. So when you evaluate these patients, they have an infection or they have a flare, their acute phases are high, their white blood cell counts are high, it doesn’t help you. Measuring their ANCA titers again as you saw in the first case not necessarily very helpful, they can have a high ANCA with an infection or with a flare of their vasculitis. What you need to do is culture them to identify the pathogen and it’s helpful also to identify sensitivities especially in patients that are hospitalized frequently who might have drug resistant organisms.

When you’re concerned about infection as I was when I saw this gentleman you stop their steroid sparing agent. Again, going back to how to treat these patients, infections in many cases is more likely to kill them than their autoimmune disease, you can manage most manifestations of their
disease with adequate doses of steroids, it’s the steroid sparing agents that need to go until you’ve established what’s going on.

So he was started on antibiotic therapy, there was an agreement that this was most likely that these so-called contaminants were not and they actually represented pathogenic organisms in him. We conservatively decreased his steroids trying to get him to where we felt the minimal dose would be to hold his disease active and we decided to try intravenous immunoglobulin just because he did have active disease and we were concerned as we lowered the steroids he might have a flare. This is not just hocus-pocus, it does a little bit of rheumatology black magic but there are some studies that show it can be beneficial in obtaining disease control.

Unfortunately he had a little detour, we found that he got more short of breath rather abruptly at home, we sent him to the emergency department, that large cavitation that you saw on the right had ruptured and he had a pneumothorax, he went to the operating room and he had empyema. Clear evidence that he was infected so they took out part of his lung, they did cultures again for us which was very helpful because we knew actually what we had thought were not contaminants were not and we had sensitivities and he went home with intravenous antibiotics and we thought well, maybe we’re out of the woods here.

He’s got a long way to go, we’ll have to keep an eye on him for recurrent disease but unfortunately even though initially he seemed better, he got worse again. When he was leaving the hospital after
about a week inpatient, he started to cough and over the next few days at home he started to cough up blood, develop low grade fever and fatigue and he went to the infectious disease clinic for evaluation. When he was in the lobby waiting for his ride he developed massive hemoptysis there and went to the ICU. So then we’re looking at him again, well, now what’s going on. We’ve got him on antibiotics, we thought that we were going down the right path here, did he have a flare up of his disease? Well, where’s the blood coming from? Well you can have epistaxis, hemoptysis, of course in him where you have a known diagnosis that’s associated with lung involvement, does he have a mass lesion that’s bleeding or does he have diffuse ovular alveolar hemorrhage as a flare of the CPA? Other things we thought about pulmonary embolism with infarction, again an infectious complication of his recent operative procedure or even a surgical complication, is there something related to his surgery that’s bleeding causing this problem?

So this is what his scan looked like at this time and he very clearly had a lot of blood but you can see there that the left lung is preferentially affected which is not what you’d expect with diffuse alveolar hemorrhage where they tend to get bilateral disease. So he was intubated when he went to the ICU, he had urgent bronchoscopy with lots of blood in his airways but they found one of his cavitations was bleeding. He had a lot of nasty secretions and some clot in there, they sent this off for culture and fortunately there was no evidence of diffuse alveolar hemorrhage at this time. So in this case seeing somebody with GPA, acute hemorrhage, pulsing them with steroids, not necessarily the right answer.
And ultimately what we found out is that he had pseudomonas pneumonia probably what he acquired while he was in the other hospital and this causes hemoptysis by this little background, the bacteria invade the blood vessel wall and these patients can have significant bleeding.

So I’m looking at these patients, well how do you take care of them, how do you try to prevent these complications. Unfortunately in this young man, despite our best efforts he developed multidrug resistant pseudomonas and died about 8 months later. So – and actually he’s the impetus for a lot of the work we’re doing in immunologic monitoring in these diseases.

So we know that PCP prophylaxis is fairly standard in small vessel vasculitides in patients who are getting aggressive immunosuppression, we really don’t know what to do with other vasculitis patients, we know that there’s a high risk of infection when you’re on high dose steroids. This infection probably is increased when you add another steroid sparing agent which many patients are on. But there’s just no good data to tell us what to do and so the approach to this is pretty diffuse. Everybody has an individual preference but I’ll have to say when I went to an investigator reading in the U.K. there was not agreement that even the patients on cyclophosphamide and steroids should get PCP prophylaxis if you can believe that.

So that was a very animated discussion and most of us still are going to do that anyway. These patients all should have vaccination and the issue comes up sometimes it’s from a primary care provider, most often it’s from the patients while getting these medicines, should I get my flu shot,
should I get my pneumonia shot?  And the answer is absolutely yes.  If you’re on immunosuppressive therapy you may not mount as much of a protective response but there’s good data to suggest that there still is some improvement in antibody titers and perhaps even a better protective response or most likely a better protective response than if you’re not vaccinated.  And when you’re using non-live vaccines there’s no risk for creating disease.

And, again, if they get infection, you admit a patient with GPA or Churg Strauss, giant cell arteritis and you think they have an infection, stop the steroid sparing agent and we’re very happy to talk about how to minimize their steroids, trying to get their steroid dose down as low as we think they need to be on and this again is the art and not science of medicine.  So this is a little bit more of a guessing game in patients who have a good track record, it’s a little bit easier to make an educated guess.

As in this gentleman, we consider IVIg for patients with very severe disease that has been active requiring aggressive management.  We get Infectious Disease involved early just because these patients are not only at risk for community-acquired organisms but they have a very high risk for opportunistic infections, standard cultures that you usually order are not adequate to diagnose this, most of the time if you send a culture they don’t routinely do microbacterial, PCPs, CMV testing, you have to ask that in Infectious Diseases helping us broaden our differential diagnoses when they see these patients.  So if I admit them and it looks like anything other than garden variety things, they get involved the same day.
So in summary, as you see just from these few cases there are many mimics of systemic vasculitides, I think these illustrate that well, that the serologic test that we use as part of our diagnostic workup can be very misleading. And it’s unusual to have leucopenia, trombocytopenia, normal acute phase responses in the setting of acute active systemic disease. If you see these things you should take a step back and think about other conditions. And as I said before, tissue is the best means of helping you come to the diagnosis but again it’s not perfect.

Complications of therapy are very common and as you see can be mistaken for a disease flare and in the young man who was the last case, this was rather catastrophic, he received a lot of immunosuppressive therapy in the setting of active infection. Whether something could have been done before to help him or not we don’t know. But certainly with colonization and infection of organisms in his cavitations the extra cyclophosphamide steroids didn’t help. And as in the ophthalmologist with GCA, high dose steroid therapy can confound manifestations of other comorbidities, certainly that was thought this was going to be helping him not making his problem worse. But I think one of the important take home messages here should be that infection occurs frequently in patients and should be thought of early when they’re admitted and as the more common cause of morbidity and certainly the most common cause of mortality in some forms of vasculitides.

So in these patients a high level of vigilance should be maintained for infectious complication therapy and when you see these patients especially those who are ill in the hospital, we usually get a
good team together to help take care of them. In the last case we had pulmonary involved, we had immunology involved, we had infectious disease involved really to try to get our best efforts together to help them. In many cases the outcome fortunately is a lot better but this, in this day and age with all the drugs we have, all the antibiotics we have, all the imaging we still, this still can happen. So it’s important to be aware of this.