"How to recognize catatonia" Transcript

Eric LaMotte, MD and Heidi Combs, MD

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Eric Welcome to OslerCast, I'm Eric LaMotte. Each week we choose a theme, and put together different kinds of stories on that that theme–wait no, that's *This American Life*. On this podcast, we'll discuss topics relevant to the clinical practice of internal medicine. The topic of this episode, our first episode, is catatonia. I picked this topic because it's something I wished I learned about way earlier. Now you might wonder, what am I doing discussing catatonia on a podcast for internists and internists in training? But today we're going to talk about how catatonia is a highly prevalent cause of altered mental status in hospitalized patients, and by recognizing and appropriately treating catatonia more reliably, we can greatly benefit our patients. Catatonia is a psychomotor syndrome that affects speech and motor activity, and although it can look different from patient to patient, once you know what to look for, it is eminently recognizable and treatable. It can develop in the presence of common risk factors such as psychiatric disease, general medical conditions, and certain medications, but it can also affect people out of the blue, with no identifiable risk factors. My guest today is Dr. Heidi Combs. Dr. Combs is an associate professor of psychiatry at Harborview Medical Center, and the clerkship director for the University of Washington's MS3 psychiatry clerkship. Heidi and I will split today's episode into three main sections. How important it is to recognize catatonia when you see it, the physical exam to diagnose catatonia, and treatment options. Let's get started.

1 The Importance of Recognizing Catatonia

Eric Heidi, thank's for joining me.

Heidi Thank you for having me!

Eric What sparked your interested in teaching about catatonia?

Heidi So, I think catatonia is one of the areas of medicine that there has been a deficit in people's education for. When I was trained at the University of Washington as a medical student and resident, catatonia was not something I was taught about, then once I started in practice, I ended up seeing cases I didn't understand and then learned about catatonia and found out I was seeing catatonic patients, and *then* thought about all the patients I had seen before, including when I was on medicine services, that had catatonia, that I hadn't identified before. So I think raising people's awareness of this is really important because we're actually seeing it all the time, but we actually don't know that we're seeing it.

Eric Yeah, when you gave a lecture to the internal medicine residents about catatonia, your lecture totally blew my mind. I realized that the illness script I had had for catatonia was of the classic case, of a mute patient with waxy flexibility and posturing that I thought I would instantly pattern-recognize if I saw that, but until then, I hadn't realized that there were other patients out there with a much less classic presentation who I was probably missing left and right. Is that right?

Heidi That's exactly right, and I think that you certainly will see those type of patients thats kind of the classic picture of catatonia. They're standing there, staring, not blinking, not moving, not talking. Those are actually pretty easy to diagnose. It's more the agitated catatonic patients that can be a bit more tricky I think to pick up sometimes. Oftentimes you'll see these patients engaging in repetitive activity, so they'll have repetitive movements that they're doing, but there's really no purpose to the movement. Sometimes' they'll have verbigeration so you'll say something and then they'll say "you say it you say it you say it you say it" so they'll repeat what you're saying, or they'll repeat physical movements over and over. They'll have odd posturing in their bodies that they'll be doing, odd hand movements for example. So oftentimes I'll ask the

patient when I see them engaging in these odd physical behaviors, I'll say "why are you doing that?" and they'll say "I don't know why I'm doing that." That is unusual. Most other patients with other syndromes will be able to tell you why they're engaging that activity. A delirious patient will usually just continue to do the activity, not really even attend to the fact that you've asked them that question. So I think that's one of the challenges sometimes, you'll see some of this kind of psychomotor agitation, and it may be associated with catatonia, not just anxiety for example.

Eric When we see it but we're not calling it catatonia, what do we tend to diagnose these patients as having?

Heidi Delirium. Or, agitated. Or sedated. I've seen many many chart notes, where there's *clear* I mean they'll even use the word catatonic. The patient's exhibiting catatonic behavior, but then they don't give the diagnosis of catatonia, they just describe the catatonia that they see, and then don't do anything about it!
So I think again, people don't understand when they're seeing it, and i think part of the challenge too is, people have the sense that you have to have like nine items to be diagnosed with catatonia. If you're actually looking for the diagnosis of catatonia, most of the research says between two and three symptoms that you associate would be enough to give the diagnosis of catatonia. It doesn't take much to get a diagnosis if you think oh, mutism, staring, verbigeration –there you have the diagnosis. It's not that uncommon. I think people have the sense that you have to have this huge list of things in order to make the diagnosis. You only need a couple to make the diagnosis. I like to identify it because many times, this is not the first time this person has had this experience and unfortuantely it might not be their last, so, like any condition, I want to have documented exactly how this patient looked to me, so that it helps down the road if this person re-presents, that it'll take less time for people to identify if this is happening again for them. So just making sure that I'm very clear about how this person is appearing so that that will be communicated to whoever sees this patient next time.

Eric I think maybe because we don't understand really the treatment of catatonia and that there's something that we can actually do about it that can change outcomes, maybe there's less of an impetus to label it?

Heidi Exactly, and i also think that there is a disconnect between what people actually think the diagnosis is, and what the course of the diagnosis is. So oftentimes I think people are like, "oh yeah the persons catatonic, yeah yeah oh whatever." But they don't understand that for some patients if you don't actually identify it, and treat it, they can be in the hospital *months*. Months and months that they can require treatment, that you could have treated much much earlier. There are case reports of people who literally are institutionalized for years and years and years and years, because of catatonia. They are stuck, and they remain stuck. And then once its identified, and treated, these people like magically return back to lives, so the cost of catatonia in terms of not treating it if you have someone who ends up with chronic catatonia, it can be signficant on the life of this person.

Eric Why do physicians typically tend to have such a limited view of catatonia? Are there any historical factors that contributed to this?

Heidi Yeah, I think catatonia was first described in the 19th century and at that point, it was really they associated it more with schizophrenia, and thats kind of how people thought about catatonia for a very very long time, and essentially just didn't really talk about it much. People started to become more interested again, in catatonia probably in the last twenty years or so, as I think more of our understanding of neurobiology has developed and also people started studying catatonia more and found that it's actually associated more often with bipolar disorder rather than psychotic illnesses such as schizophrenia.

Eric Whoa, did you hear that? Catatonia is more often seen in people with bipolar disorder than in schizophrenia. I did *not* realize that before Heidi taught me.

Heidi And part of our problem is, catatonia has always been identified as something associated *with*, so catatonia secondary to a general medical condition, catatonia secondary to a mood disorder, catatonia secondary to a psychotic illness. There's likely some patients with catatonia that have none of those things, we don't understand where it's coming from, and I think people don't think about catatonia unless they see this other diagnosis that they associate with catatonia, and I think that leaves us kind of blind to the catatonia...I also think that unless the patient has this classic picture of catatonia where they're just stuck, people don't think what they're seeing is catatonia. They don't see it, even though it's sitting right in front of them, they don't pick it up. It's just not on their differential.

Eric Do you think that catatonia should enter into our differential for any altered patient in the hospital, at least to the extent that we should look at the patient and think to ourselves "could this person have catatonia?"

Heidi Yes, yes I think it's one of those things that doesn't take that long to think about and have on your differential, but if you don't think about it on the patient that has it, these patients can be on your service for quite a while and not get better, so I think it's much more helpful to have it on your differential sooner than way down the line, and there's many cases of people who have been in the hospital for months and months and months and finally someone goes "wait a minute, is this person catatonic?" And then she's like, "Oh look, we fixed 'em!"

Eric In a moment Heidi will discuss her physical exam to detect catatonia. Along with examining the altered patient for catatonia, I like to review their medical history, medications, and labs for clues. As Heidi said, bipolar disorder is the biggest risk factor, even greater than schizophrenia. The list of medical conditions that can cause catatonia is incredibly broad, and it includes infections, endocrine abnormalities, and electrolyte abnormalities like hyponatremia. Catatonia can be precipitated when people stop benzodiapzepines, stop antipsychotics, or use street drugs. Elevated creatine kinase levels are often seen in catatonia, which is unsurprising, given the rigidity that's often present, but that won't distinguish it from other disorders that might be on your differential like seizures or neuroleptic malignant syndrome. With that, let's move on to the exam.

2 Physical Examination

Eric Heidi is going to walk us through her exam of the altered patient to determine if that patient has catatonia. But before we discuss the many physical findings in catatonia, let's put them in context in terms of how they make the diagnosis. There are many different rating scales that have been validated to assess for catatonia or to score for its severity, and there's no one universal standard, but one of the most commonly referenced in research is the Bush Francis Catatonia Rating Scale. This is a long, 23 item inventory with each symptom graded on a scale of 0-3. There's also a simpler version of this, called the Bush Francis Catatonia Screening Instrument. The patient is scored on the presence or absence of the first 14 items of the Bush Francis Catatonia Rating Scale, and the presence of two or more symptoms is a positive screen. Heidi's exam will assess for these fourteen items and a few of the other ones. I'll highlight each new symptom as it gets introduced with a ding (ding). These are the terms you would encounter if you were looking at a rating scale. But try not to get hung up on the difficult terminology. In fact, I should confide that Heidi and I have not memorized some of these more arcane German terms like gegenhalten or mitgehen, even though they are often reproduced in scoring systems like the Bush Francis scale. If the terms are intimidating, just pay attention to the exam maneuvers and abnormal findings. Alright, back to Heidi.

Eric Can you walk me through your exam, what do you do?

Heidi The first thing I do is observe the patient. So I'm looking to see, does this person look any different than all the people I'd expect to see laying in a hospital room, or sitting in a hospital chair, or sitting in a clinic or standing in a hall, so do they stand out? It's my Starbucks rule, like if I was standing in line with this person and they were in front of me at Starbucks, would I notice something about them that looks diferent than the other people, so I'll look for blink rate, so is this person not blinking, staring, (*staring*) or is this person excessively blinking, are they grimacing, (*grimacing*) are they doing odd, odd movements with their face? And the rest of their body. Is their body completely mute, completely silent and frozen? (*immobility/stupor*) Are they engaging in movements that don't seem to have any purpose? Its not like they're arranging their sheets and pulling them up, but they're like fussing with their sheet, and they're touching the side of a chair, they're doing these other things that don't seem to have a purpose in any way. (*stereotypy*)

Eric At this point, you'll already be able to score seven symptoms, or half of the Bush Francis Catatonia Screening Instrument items. There are four separate symptoms that you could pick up just watching the patient perform odd behaviors. These are excitement, grimacing, stereotypy, and mannerisms. Grimacing is the easiest one, so let's get that out of the way. Grimacing is the maintenance of odd facial expresssions. Stereotypy and mannerisms, I kind of think of together. If someone performs movements an action once, and even by doing it that one time it seems odd, that's a mannerism (*mannerisms*). If the patient were to salute you in an exaggerated fashion when you introduce yourself, that would be a mannerism. Stereotypy is something that might seem normal if the patient did it just once, such as scratching a spot on their arm, but it becomes

abnormal when the patient does it very frequently. Excitement is kind of the hardest one of these for me to pin down (*excitement*). It's motor unrest that's not goal directed, and not because of akithisia, so it's ego-dystonic. So those are the abnormal activities you could pick up when observing the patient - excitement, grimacing, stereotypy, and mannerisms.

Three of the screening items are negative items, as in a lack of movement, speech, or eye movement. Immobility or stupor is extreme hypoactivity, immobility, and minimal responsiveness to stimuli. Staring is a fixed gaze with little to no visual scanning of the environment, or decreased blinking. Mutism we'll get to in a minute. Ok, now back to Heidi's exam.

Heidi Then, when I start to speak with them, I pay attention to their speech are they latent? (*mutism*) So I ask them a question and there's this long pause before they give me the answer. Depressed patients that have latency tend to not be *that* latent. And then when they speak, how is their speech, is it slow, deliberate, sometimes when I'm talking to someone with catatonia they'll speak and it looks like every word that they're speaking its like trying to pull it out, its like unngghhh, unnnghh like they're thinking through molasses and its hard for them to get their words out? Or are they, when I ask them a question, they repeat what I say, multiple times, (*echolalia*) so I pay attention to all those things.

Eric After speaking with the patient, you can determine if they have mutism, that is, they are verbally unresponsive or minimally responsive. You can also notice whether they have echolalia, which is mimicking the examiner's speech, or verbigeration, (*verbigeration*) which is repetition of other phrases or sentences.

Heidi Then, there's specific things I do on a physical exam. So you check for cogwheeling, when you pick up the persons arm, you see whether the person has negativsim so when you pick up the arm and you try to move it, they are like stiff like they're not allowing you to move it (*rigidity*). There's also something, where you start to push the person's arm like you're trying to move it and then you push it a little bit, and they'll push back with equal force, and the harder you push, the harder they'll push against you, that's a symptom of catatonia. (*negativism/gegenhalten*). Because I tell them, I'm going to be moving your arm, I'm going to be checking to see if there's any stiffness. Most people just, their arm will be fluid and they'll allow me to move it. patients with catatonia, they can resist me moving them at all. So like I pick up their arm and they're really stiff. Or, when I'm moving their arm, if I push their arm a little bit, they resist it equal to the force that I'm pushing it, so they're resisting me moving their position.

Eric So with this common exam maneuver to test for motor tone, you can determine if the patient has rigidity. Exclude this as a finding if cogwheeling or tremor are present. Just to clarify what Heidi said, you move the patient's arm around to check for cogwheeling, but cogwheeling is not a finding of catatonia. In fact, if cogwheeling is present, you discount any rigidity present, because that rigidity is probably due to something other than catatonia, such as Parkinsons. The same goes for tremor. You are also testing for gegenhalten or negativism, which is proportional resistance that seems automatic rather than willful.

Heidi And then after I'm looking, finshing them moving to try to look for cogwheeling, I'll release their arm really quickly. So I'll drop their arm, and then see whether they're waxy. (*waxy flexibility*). So, normal response if I'm holding someone's arm and then I let go over their arm they'll just gradually let their arm drop back to the position that's comfortable. Someone with waxy flexibility will hold their arm where I've left it, and if I see that then I would move the arm in a different position and then let it go and see if it holds or not. So that's one part of the exam that I would do.

Eric What's the difference between posturing, waxy flexibility or catalepsy, and rigidity? I get confused by those.

Heidi I would think them kind of a continuum, so waxy flexibility is like you will position them, like you can have–put their arms straight above their head and they will leave it there. this kind of waxy, posture. Posturing is I'll come on the unit and someone will just be in this odd position and they can sit there for hours.

Eric So they got their on their own.

Heidi They got there on their own, and then they just stay there (*posturing/catalepsy*). And rigidity is more, I think of rigidity as more as like a resistance like when you're actually trying to move the person, there's this rigidity against you trying to move them is how I would think about it.

Eric So to clarify for the listener, this abnormal posturing, catalepsy, sounds alot like another neurological term, cataplexy, which is a sudden loss of muscle tone often triggered by strong emotions and seen in association

with narcolepsy, so beware of getting confused with these two terms. The finding associated with catatonia is catalepsy, or maintenance of an abnormal posture. Back to the exam.

Heidi So there's another part of the exam that feels a little odd to do, but it's amazing when you get a positive hit from it, you put your hands on your hips, and then you raise one of your arms *very* dramatically, do a big wide sweep, and then you scratch the top of your head, like a monkey would raise their arm up and scratch their head, patients with echopraxia (*echopraxia*) associated with catatonia will actually mimic, what you have done, even though you have not instructed them to do so.
The next test, that I do, is have them extend their arm out straight in front of them, so it's right sticking out straight in front of them and their body, and then you touch the underneath palm of their hand, and then you say don't move your arm, and patients with catatonia sometimes when you touch their hand, will float their arm straight up, even though you've instructed them not to move their hand (*mitgehen*).

Eric So to review these special tests, first you do an exaggerated, ridiculous movement, like scratching your head like a monkey. If the patient copies you, they have echopraxia. You ask them to put their hands out in the air in front of them, palms down, and not to let you raise their hands any further. You put light upward pressure on the palm, and if the hand goes up easily, this is mitgehen. It's also sometimes referred to as an anglepoise lamp sign. This refers to a type of desk lamp with springs in the base that is easy to raise, and holds its shape. This type of lamp was the inspiration for Pixar's animated mascot, Luxo Jr.

Heidi The next part of the test is you reach up like you're going to shake the person's hand and you say "don't shake my hand" and patients with catatonia will do something called ambitendency (*ambitendency*) where they'll reach slowly and they'll try to shake your hand even though you've just instructed them not to. Then I pretend that I'm taking a pin out of my pocket, and I'll say "stick your tongue out, I'm going to put a pin in it." That's something called "automatic obedience" (*automatic obedience*) and patients will often stick their tongue out, I had a patient who I had who an hour later I had to go back and tell her put your tongue back in your mouth, because she still had her tongue out.

Eric So with the handshake test, if they shake their hand, or take an abnormally long time vacillating between going to shake it and then withdrawing their hand, this is ambitendency. The normal response is to be able to avoid the impulse to shake an outstretched hand if you've just been instructed not to do so. Needless to say, the normal response when told to stick out your tongue so somebody can put a pin in it, is not to stick out your tongue.

Heidi And then you turn their hands palms up and then you stroke their palm and look for a for a grasp reflex, (*grasp reflex*) so that's the classic kinda catatonia exam. The Bush Francis catatonia scale has 23 rating scales–noone does that. People do this other one that I just said. It takes like 4 or 5 minutes to do. The other thing that I will do is look at nursing notes in the previous 24 hours and if I see bizarre things, that increases my index of suspicion. Patients coming out with their clothes off: delirium, catatonia. That's usually the diagnosis you'll see with that, or exhibitionism–that's a different story. Patients urinating outside in the hall. Putting objects in odd places in the unit or whatever. You'll, you'll look and they'll be doing these unusual behaviors, you can see this with delirium but you also can see this with catatonia. So if I get two or more positives of what the things we just talked about, I would identify that as someone who likely has catatonia and then I would treat.

Eric So to review, observe the patient. Are they doing weird stuff, which could count as excitement, grimacing, stereotypy, or mannerisms? Or are they doing nothing at all, which could count as staring, immobility/stupor or mutism? Just by observing the patient, you can score seven out of the fourteen screening items. Then, check for motor tone and think about whether they have rigidity or gegenhalten, that is, proportional resistance to movement. Do the monkey head scratch test for echopraxia. Test for mitgehen by pushing up on their outstreched hands. Test for ambitendency by putting your hand out for a handshake, but instructing the patient not to shake your hand. Test for automatic obedience with the suggestion of putting a pin in the tongue. If you're not doing this exam all the time, it's tough to memorize all these steps, but if you can just remember to observe the patient, do the motor tone exam, and then one or two of these special maneuvers, you'll be missing only a few items that you can look up later and try on a second exam if your suspicion is high enough.

Heidi And the thing thats so nice about it, is, it's a bedisde exam, you don't need anything except yourself, and it takes literally just a few minutes to do so it's one of those nice things where kind of on the fly anywhere you can do this once you see someone who is appearing catatonic. Or someone thats on your service.

3 Treatment

Eric We've talked about making the diagnosis, so we're kind of at the point now of starting treatment. Or maybe if you're suspecting a diagnosis but you're not quite sure yet... can you talk a little bit about the benzodiazpeine trial?

Heidi So if they're in the outpatient setting, probably not so easy to give them IV lorazepam but if they're in the inpatient setting, you can, give them a trial and give them a milligram, 2 milligrams and see how they do. It's cleaner than doing it PO, sometimes you can't do an IV and then you end up doing PO. And then you just watch to see how the person looks. Again as I said some people you'll see a marked improvement, some people it's very subtle. They seem a little bit more interactive, they're eating more, they are not engaging in this purposeless activity any more if they're someone who has kind of a hyperative catatonia. I think the challenge is, sometimes it takes higher doses and so, don't bail too quick. If you really think this person has catatonia, you have a very high clinical index of suspicion, keep moving up their benzos. Sometimes, like I talked about before, it can take you know 8, 10, 12, 14, 16, 18 milligrams of lorazepam divided throughout the day for a person to have a marked reduction in their symptoms, so, just because you give them one milligram and they don't get better doesn't mean they don't have it. My, the analogy I always use is when someone's in DKA and you give them ten units of insulin, and the insulin doesn't resolve their DKA, does that mean insulins the wrong drug? Probably not, means you haven't gotten the right dose yet. And i think thats a good, a good model to keep in your mind.

Eric Can you talk a little more about the algorithm you would use, how you would get from 1mg of IV ativan up to something like 18?

Heidi So I would do, and what I'm doing, you don't usually do those high of doses IV, we'd switch to PO at that point. I'd do a milligram and test, and see how they look, and then I would usually then do–I'll start with a milligram TID, and then I'll look and I'll see how the patient looks, if they look like we're starting to get somewhere or maybe not but they'll tolerate it, I'll go to 2mg TID, 3 TID, 4 TID. Because of the half life, you don't have to dose it every, it's not like you have to give it every hour and a half or two hours, you can do TID dosing, there's no data that I've seen, indicating you need to do more frequently than that, and then and then I would just keep going up from there. And I think, if you're seeing a partial response, I think jumping in sooner with a zolpidem trial, and I'd give it in the morning when the team's going to be around, and then come back and see how the patient looks, and then pay attention to how the nursing notes look throughout the day. That's kinda how, the algorithm I would do.

Eric So I've given a milligram of ativan, when is the best time for me to go back to the patient's bedside and check?

Heidi I usually will go with, well if you're doing IV you could do it quickly I would probably within 15 minutes, if you're doing PO I usually like to go a half an hour after because I've had people within a half an hour, start to notice a change. And sometimes it can take longer, sometimes its a couple of hours before you'll see a response, so the beauty is, if you're in the inpatient setting, even though we're not there, the nurses always are there, so you can always enlist the nurses's help, saying I've given this patient this med, please let me know if you notice any change, or really document what you're noticing on this patient, as far as identifying the specific behaviors that you're trying to focus on with the patient.

Eric I've printed out the Bush Francis scale once for a patient's nurse just so she could be familiar with the things that we were looking for.

Heidi Right, really helpful cause I think, you think about our medical training, we, most of us got very little, if any, how much do you think the nurses have gotten? Probably almost none, because there're so many other things on their scope of practice that they're working em on.

Eric And when would you stop? Only if the patient's getting worse, or getting overly sedated, or not improving?

Heidi Overly sedated, not improving, respiratory depression. I mean those, those would be the things, or if the patient's completely snarked, right like if the patient's, now I've made them unconscious, "wow, they were latent before, now they don't talk at all because they're not awake any more" then I'm probably not going to be doing the patient any good at that point.

Eric I understand that ECT is the treatment of choice if benzos are not working. How do you make that diagnosis if the benzos aren't working is it just based on, the clinical findigns are so concerning for catatonia, the patient definitely has catatonia based on exam, but then benzos aren't working so you pursue ECT?

Heidi They're actually, ECT or benzos are kind of identified as *the* treatments for catatonia. The challenge is, if you have a catatonic patient who's mute, they can't consent. And different states have different policies. Other states, you can have a surrogate make a decision for you, including ECT. Our state (Washington) is more restrictive, you have to have a court appointed person who will make decisions for this person and consent for them for ECT. So, if the person can consent, or if you have someone who can surrogate, you can say this is a treatment choice, it works really really well, the nice thing is, patients with ECT you can start to see improvement pretty quickly, and if you have someone who has like a malignant catatonia where this person is really starting to get into medical trouble, you would want to do something that you can do as quickly as possible, and it for some patients, even though you can have the a-ha moment, where they wake up or start responding, sometimes they can take a while, and if there's there's medical immence, you may not feel like you have a while, or if the patient's–you've moved up the benzos, you have 'em on a reasonable dose, they're still not budging, or they're getting a little bit better but they seem to be stuck, maybe ECT is where you need to go with this patient.

Eric Catatonia can cause autonomic abnormalities, like fever, tachycardia, and hypertension, and when it does it's called malignant catatonia. Autonomic abnormalities are actually the final criterion for catatonia in the Bush Francis scale. Catatonia can also cause other complications like rhabdo, DVTs, and aspiration pneumonia. And when it does, time to think about ECT.

Eric What about some of the adjuncts, uh zolpidem I've seen or the NMDA antagonists, do you have any experience with those?

Heidi Yeah, one of the very first catatonic patients I ever had, was someone who had come in, she had an NG tube placed, she was severely depressed, not talking, not eating, and her family by chance mentioned "oh, and we just noticed, sometimes when we give her her ambien in her tube, her zolpidem, that she eats some and she talks some," and I thought "well that's *weird*, this was quite a while ago, so I did a lit search on it, and at that point there were five case reports of using zolpidem in catatonic patients, and they were almost all in France, and I thought well, what the heck, let's give it a go, so it was noon, gave her some zolpidem in her, in her NG and half an hour later I heard her voice for the first time and she ate lunch, and she did not get sedated. So, it works on a different GABA receptor than benzodiazepine right, so you have a subset of people who'll have a partial response to benzos, who have more of a respone to zolpidem.
I had another patient who after sixteen days of doing, identifying her as being catatonic, moving up her benzodiazepines, making progress but talk about glacial, slowly slowly still was requiring two nurses to walk her down the hall and so on, thought that "you know, well what the heck, I'm going to give her some zolpidem, so I did, I gave it to her in the afternoon, completely snowed her, I thought well, *see*. Then, at 9 o'clock that night, I'm not kidding, this is straight outta the nurse's note, the patient stood out of the broda chair, walked to the nurse's station, and said "I'm back!" *...just* like in the movies. And she required zolpidem to be given BID, morning and night, we ended up doing five milligrams, and for many of these patients they don't get sedated from it, but it helps keeps them unstuck. So somehow the mechanism is slightly different for some patients. That's more of the people that have probably more this GABA etiology for their catatonia. There's some that have thought that it's glutamatergic, that it's too exciteable, and for some of them, you can try NMDA receptors an(ta)gonists and I've had some success with that, with using memantine with those patients, if you look at the data, about 80% of patients will respond to benzos or ECT so that's a subset of patients, so again I think catatonia, like many things, has multiple etiologies, and so if you dont have success with those, I think moving on to another agent is reasonable.

Eric Most studies show that about 80% of catatonic patients experience dramatic improvement within 2 or 3 days of benzodiazepines. ECT is indicated for benzodiazepine non-responders after 72-hours of appropriately dosed ativan, or those with malignant catatonia.

Eric OK, and, sometimes we just get lucky? Patients get better without us recognzing and giving the appropriate treatment?

Heidi Exactly. I think there are likely many many people, in fact I know there are many many people who have catatonia and it gradually resolves on its own and it reminds me a lot of, for many patients, manic episodes

or depressive episodes will resolve on their own, it just takes time, but if you treat those disorders just like with catatonia, you shorten the length of the time that they have the symptoms and you shorten the intensity, you, you shrink the intensity of the symptoms, so I think there are patients who will eventually improve from their catatonia, unfortunately there are cases of people who do not, and I think those are the ones that are particularly concerning, because this is a diagnsois we can treat, and if we don't identify it, these people can have very prolonged courses.

Eric We often hold benzodiazepines in altered patients, especially when we diagnose them with delirium. Could cessation of benzodiazepines worsen catatonia if something else already precipitated it?

Heidi It could, and again I always tell people if you have a pretty good clinical index of suspicion for catatonia, it's always better to treat it and have not had the person had catatonia than to not treat it and have them had catatonia and have this course continue on and on. If you have someone who is delirious, if you give them benzodiazepines you will make their delirium worse. Ok so then you realize "OK that was wrong. I was incorrect there. I need to stop that." If in fact the person appears delirous but you give them benzodiazepines they shouldn't get better. They'll get better cause they're catatonic, they're actually not delirous. So I would rather err on the side of giving them the benzodiazepines and seeing how they do, but that one of the challenges is, delirium vs. catatonia sometimes it is not easy to tell, and so continuing to aggressively look for causes for this person to be delirious or catatonic and then giving benzos and then seeing if things get worse or better. If you give a benzodiazepines to someone with catatonia, it is *not* going to make their catatonia worse. If you give benzos to someone who is delirous, it could potentially make their delirium worse so I think sometimes you have to take your best clinical guess, you choose a treatment, and then you carefully monitor how the patient's tolerating the treatment, how their symptoms are resolving or evolving.

Eric How would someone with catatonia do on typical things that we do to test for delirium? So if I ask a patient, you know a tough question that requires a lot of attention like "would a stone float in water" my experience is that delirious patients get that wrong they say "yes" whereas other patients, ah, you know, correctly say "no." How would a patient with catatonia...?

Heidi A patient with catatonia would often be able to answer a question like that as long as they're not too latent. Or, if if they're not locked in. So sometimes, you have patients that their processing is so slowed that when you ask them a question like that, they can't get the answer out like they'll look at you like they'll want to give you the answer, but they can't get the words to come out. They should be oriented, they should be able to tell you who they are, where they are, what the date is, again its challenging if they're mute, and in those cases, I don't know that I've ever seen someone who is delirious that is mute, rigid, I mean that's just not what delirium looks like.

Eric So maybe thats why in our records we should be saying not just "patient not oriented." but, you know, "patient answered incorrectly to orientation questions", actually put what they said instead of just, you know if they didn't say anything at all, maybe that would be more along the lines of catatonia.

Heidi Exactly, exactly. I have a lot of patients when I'm talking to them, it'll take three or four minutes to get very little information out until I can get them unstuck. I've examined many catatonic patients who, much like their speech is latent, their actions are latent, so I'll ask them to do something, and they don't do it, and they don't do it, and then I've actually started to move on to the next thing I'm going to ask them, and they start doing what I've asked them previously. And it's because thats how long it took them to actually be able to initiate the movement.

Eric So patience is key, maybe.

Heidi So patience is key, yes, definitely patience is key with these patients.

Eric I remember one of the terms you used was that it seemed like metaphorically all their gears were just grinded into a halt. And so there's a lot of tension but not much movement.

Heidi Yeah, I think the best description I've heard from this is actually one of my former attendings, and he described like a busy intersection in New York. If it's not that busy and there's kind of cars, you know at the stop light when the light changes some cars go, the other ones are waiting for other cars to go, but at some point if there are so many cars in the intersection, you have gridlock and nothing moves. And thats kind of the sense that for some patients its this hyperexcitability that they're experiencing, and why giving them

GABA-ergic things like benzodiazepines, ECT which causes a huge GABA surge can actually be helpful for those patients, I had a great example when I had a patient who was manic, had gotten psychotic and was hospitalized and I went to see her, and she was sitting on her bed, stuck frozen, mute, and I told her "I think you have something called catatonia, I'm going to have them give you a medication to you and I'm going to come back in a little bit and see how you're doing." Gave her a milligram of ativan, came back, and she started talking, and it was like "badadadadada" and she had this amazing pressured speech, and I had like this picture in my head of like tires going so quickly that they didn't have purchase, and then I slowed them down just enough to catch and man she was off to the races.

Eric Well I want to thank you so much for volunteering to be the first guest on the podcast.

Heidi Absolutely this was really fun, thank you!

Eric Thank you!

Conclusion

Eric To review what we learned today, catatonia is actually a common cause of altered mental status in hospitalized patients and through prompt recognition and treatment, we can greatly impact patients' lives. To examine a patient for catatonia, observe them for abnormal movements, eye movements, or facial expressions. Also look for a lack of movement, a lack of eye movement or blinking, and mutism or speech latency. Check for rigidity by moving the arm around. Examine them for ambitendency by asking them not to shake your hand, then putting out your hand for a handshake. Check for automatic obedience by asking the patient to stick out their tongue so you can put a pin in it. Check for mitgehen or passive obedience by asking them to put their hands in the air in front of them with their palms down, but not to let you raise their hands further. Then apply gentle pressure and see if their hands easily float up. You can examine for echopraxia by performing a ridiculous movement, without giving any instructions to follow or not follow your lead.
Treatment of catatonia involves starting a benzodiazepine trial. Keep increasing the benzodiazpeine dose until symptoms have either resolved, or the patient becomes sedated. If you still suspect catatonia even if the patient got sedated with benzodiazepines, you can request that consulting psychiatrists consider ECT, or try other drug classes such as zolpidem, or NMDA receptor antagonists.
While listening to this episode, you may have already retrospectively diagnosed a patient you've seen in the past with catatonia. If not, maybe you'll find that you are able to make this diagnosis with increased frequency in the future. If this episode did help you diagnose catatonia, please do let me know. You can email me at eric@oslercast.com. At our website you can find show notes and references with more information. Thanks for listening and see you next time.