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Another thread so soon? This one's going to be about a classic argument, sex determination. There are five methods of sex determination and I'm going to go into depth on my arguments on why I state that sex is able to be determined in all cases. #intersex

As you know if you follow me, there are five factors in sex determination. I've briefly gone into this in other threads but this thread is dedicated entirely to dissecting this whole thing apart. You only need one, or two for 99.98% of people when they are born.

However we're going to talk about those who are "ambiguously sexed" like myself and that brings me to my next argument and point.

The five determination methods in question:
Karyotype, Presenting Genitalia, Gonads, Hormone Production, Internal Reproductive Structures.

Starting with Karyotype.
XX, XY. The point is, humans can only possibly have either a X and Y in their karyotype. However a Y monosomy isn't possible, at least not survivable anyways. The X also comes before the Y as well, but there's more to this particular determination.

It isn't as simple as having a Y, or having only Xs that'd be far too easy for more ambiguous cases. So there's something known as SRY [Sex Region Y] Which is a region on the Y chromosome that is normally necessary for testis development and male development as a whole.

The SRY gene can actually translocate itself on a X chromosome resulting in XX Male, or De La Chapelle. There are also, albeit rare cases that have been reported where there is a pure 46 XX karyotype and no SRY yet the individual still went down male development, testis and all.

Just like the SRY can just not exist, or can break on the Y chromosome resulting in Swyer[Classic XY Female] or XY Female[I refer to two different conditions in this case] - Leading down to a female development path.

Hopefully karyotype is explained now..

Next we have gonads, this is where things get trickier.

To start we'll go into how there's different types of gonads and it is possible for a body to have two of the types, especially in that 0.02% of intersex people. In that case you classify by which one is functional.

Testicles, Ovaries, Ovotestis, or Streak Gonads. Streak Gonads can very much be a factor in numerous conditions and realistically you must state there is no determining factor on this. However there are some.. interesting cases I'll go into, particularly everyone's favorite: AIS

AIS is a case where the gonads, or testicles appear to "work properly" but they also don't. The body has a built in resistance to androgens, varying from low [obvious male determination] to complete [debatable sex reversal] - However in many cases, AIS gonads do not work.

A working gonad can determine your sex right then and there, which by that I mean does it produce sperm, or ova? Which again, in AIS case this is not the case.. there was actually a case in the past of AIS that ended up having the ability to gestate through IVF.

On this alone, gonads are trickier but outside of gray area cases it's usually easy to mark a determination for male or female on the gonads, even in intersex cases. Ovotestis for instance can only successfully produce one of the two gametes, meaning a support for ova or sperm.

In short, gonads are usually pretty simple determinants until you get to cases where the body resists the sex hormone produced, arguably altering it even. We'll get more into that later. This results in the part in question going from functional to non-functional.

Now we have the plain as day one, there's only one real exception here and that's the most severe degree of classic CAH.

External genitalia is pretty obvious in regards to having a clitoris or a penis. A vagina, or no vagina. However like I said there are some exceptions.

Classic CAH can result in the urethra being displaced toward the clitoris or even in it. In the most severe cases the vagina can actually become fused with the urethra. However females with this condition still have Mullerian structures, something we'll again go into later.

One that often gets called for being ambiguous which really shouldn't is hypospadias in male intersex conditions. This is when the urethra is placed lower on the phallus and not at the tip of the penis. This is still a penis, a different penis but it's a penis no less.

Visibly larger clitoris are obviously female, and micropenis is still male. This really shouldn't need said but we've been quickly regressing into an age where we're apparently going back into the satirical phallometer, based on IGM measures taken. Ugh.

Hormone production is a straight forward one, what hormones does the body produce. Does it support leading into more male-typical characteristics or more female-typical characteristics. Obviously there are variations and differences in the level

of sex hormone a body produces

One isn't suddenly "null" because of producing higher then average testosterone, or estrogen in the other cases. This one doesn't really need explaining but once again we'll head to our friend AIS which literally converts the testosterone that is being resisted.

Or mutated is the better term. Basically once again this ties into cases like CAIS being a sex-reversal female. The hormone development lines up with female bodies, despite none of the reproductive structures being present. AIS is quite the tricky case once you get specific.

Lastly we have reproductive structures, there's an infamous example for this one but we'll get into it later.

Reproductive structures are what we're referring to when we talk to Mullerian and Wolffian structures.

Typically if Wolffian structures are fully developed and the paths are set for testis determination and function, then you have a male determination without question. However, there are cases where arguably both can be present. A rarer condition with three variants.

Persistent Mullerian Duct Syndrome is when a normally male body doesn't dissolve the Mullerian structures meaning despite the body being that of a functional male in two of the variants with Mullerian structures, which can indeed include a uterus.

However these uterus that remain in these bodies tend to not activate until hormone cycles are altered, either by the man in question reaching his late 30s, or deciding to transition. Little is known about the impacts of keeping a functional uterus and the like in PMDS.

There is also a variant of PMDS where the testicles never descend, are mostly functional but are positioned where ovaries would be. This is the most rare version of PMDS too.

That said, PMDS would either be marked as both for this or male due to functional Wolffian.

PMDS is another weird case, one I personally don't like arguing on due to its rarity. Typically reproductive structures can also be a tell for one's sex determination and like I said, all five methods aren't even necessary for 99.98% of the population which includes intersex.

It's only those that fall in the 0.02, more severe CAH, mosaicism, PMDS, ovotesticular and the like that all five determination methods are really necessary but in the end you can factor everything together and come to a conclusion about one's sex.

That said we should normalize these bodies and only take medical intervention if absolutely necessary. Intersex bodies should be supported, not forced into a standard they were meant to be unless the person in question wants that without pressure.

Well, that's enough out of me. Hope this explained my stance on the five methods of sex determination when I start talking about all that.