UNIVERSITY OF LEEDS

Exploring anatomy: the human abdomen

An advanced look at the peritoneum: transcript

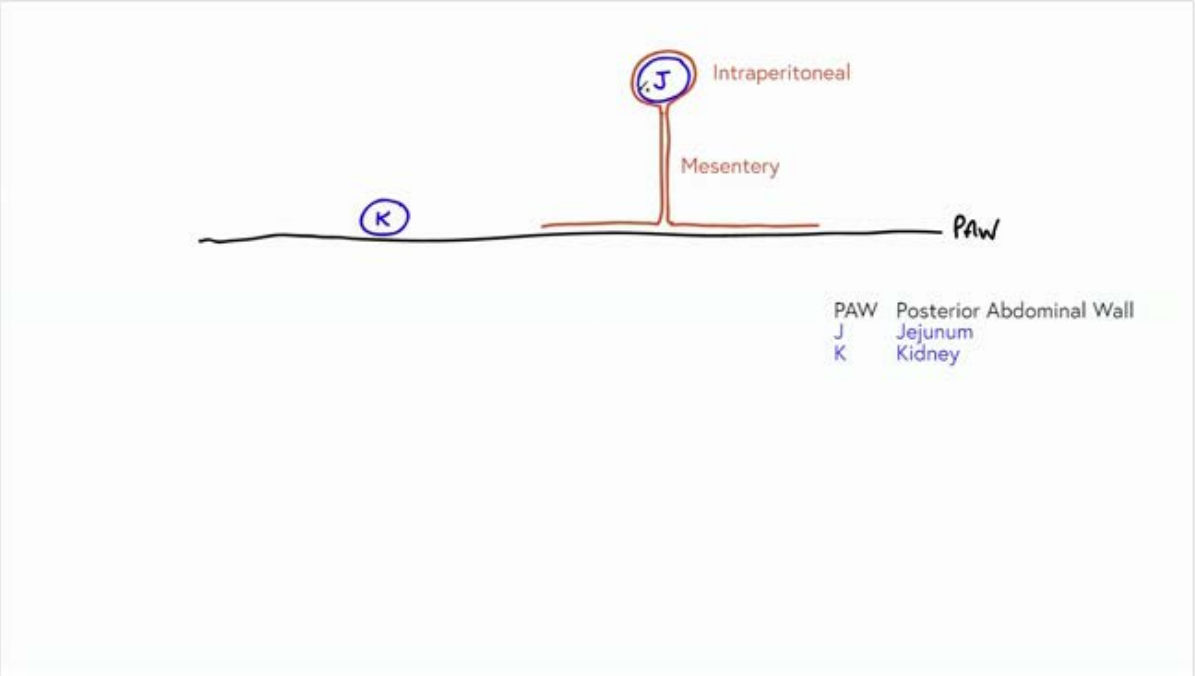
Welcome to this video for exploring anatomy-- the human abdomen. This video is going to outline the peritoneum. So first of all, let's draw out the posterior abdominal wall. This black line represents the posterior abdominal wall.

Now we need to look at a couple of different types of organs, organs that are known as retroperitoneal and organs that are known as being intraperitoneal. So let's draw out that represents the organ here. That's going to be intraperitoneal. So let's say this is the jejunum. And let's have a retroperitoneal organ that is anchored to the posterior abdominal wall. And let's say this is a kidney.

So running along the posterior abdominal wall is going to be a layer of peritoneum. So here in red we can see our layer of peritoneum running along the posterior abdominal wall. Now if this organ is going to be intraperitoneal, it means it's going to be suspended within the peritoneal cavity. And it's going to be suspended via a double layer of peritoneum that is known as a mesentery.

So here we can see a layer of parietal peritoneum. So the peritoneum that's lining the body wall is reflected from the posterior abdominal wall to form a mesentery. If it's going to go on to suspend the small intestine, it's known as the mesentery. If it suspends the transverse colon or the sigmoid colon, it's known as a mesocolon. So the transverse mesocolon or the sigmoid colon.

You also have mesenteries that suspend the stomach. And these are also double layers of peritoneum. And they're called omenta. So the lesser and the greater omentums. We'll look at those later on.

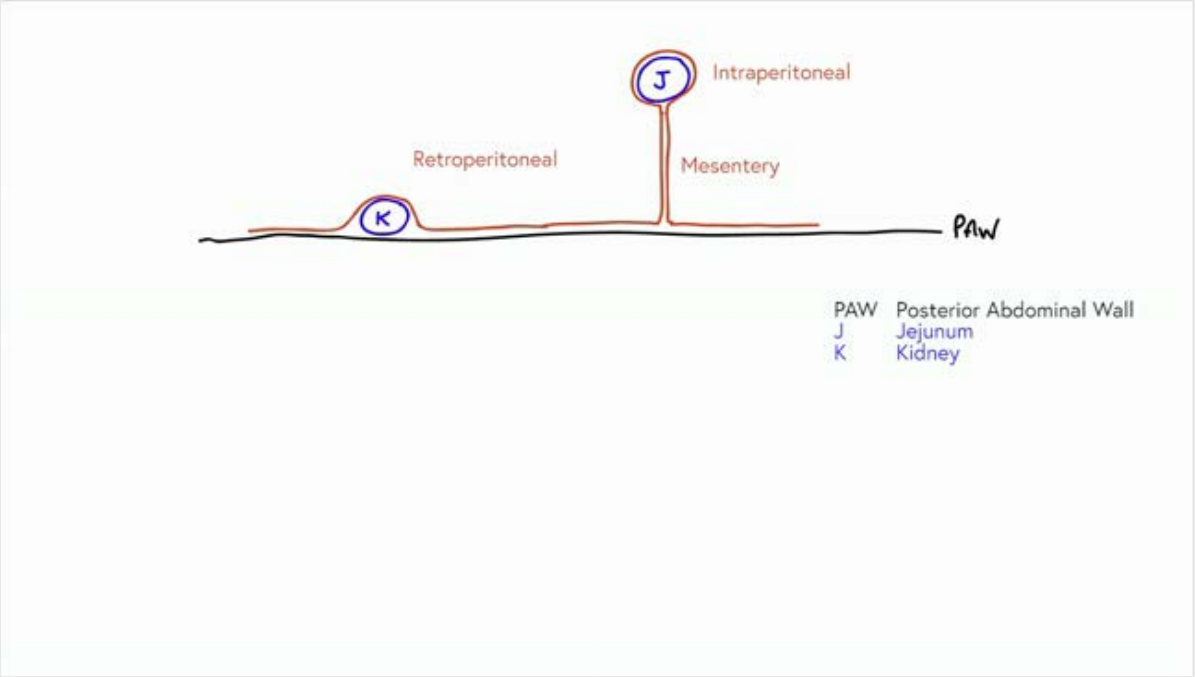


So here we can see a layer of parietal peritoneum that's been reflected to form this double layer, a mesentery. Then goes towards this suspended organ. And it completely envelopes this organ. We

now say that this organ is intraperitoneal. It's completely surrounded by a layer of peritoneum. And as this layer of peritoneum is in contact with this organ, we call this visceral peritoneum.

So peritoneum that's in contact with an organ is known as visceral peritoneum. Peritoneum in contact with the posterior abdominal wall or the anterior abdominal wall, but in this case, the posterior abdominal wall , is parietal peritoneum. Parietal Peritoneum that has been reflected to form this double layer, a mesentery, that completely envelopes the organ, thereby suspending it within the peritoneal cavity.

Now not all organs are suspended in the peritoneal cavity, as we can see here with the kidney. And the kidney essentially just lies behind the peritoneum against the posterior abdominal wall. So here we can see a layer of parietal peritoneum is just covering this organ. But it's not forming a mesentery. So this organ that's behind the peritoneum is known as being retroperitoneal.

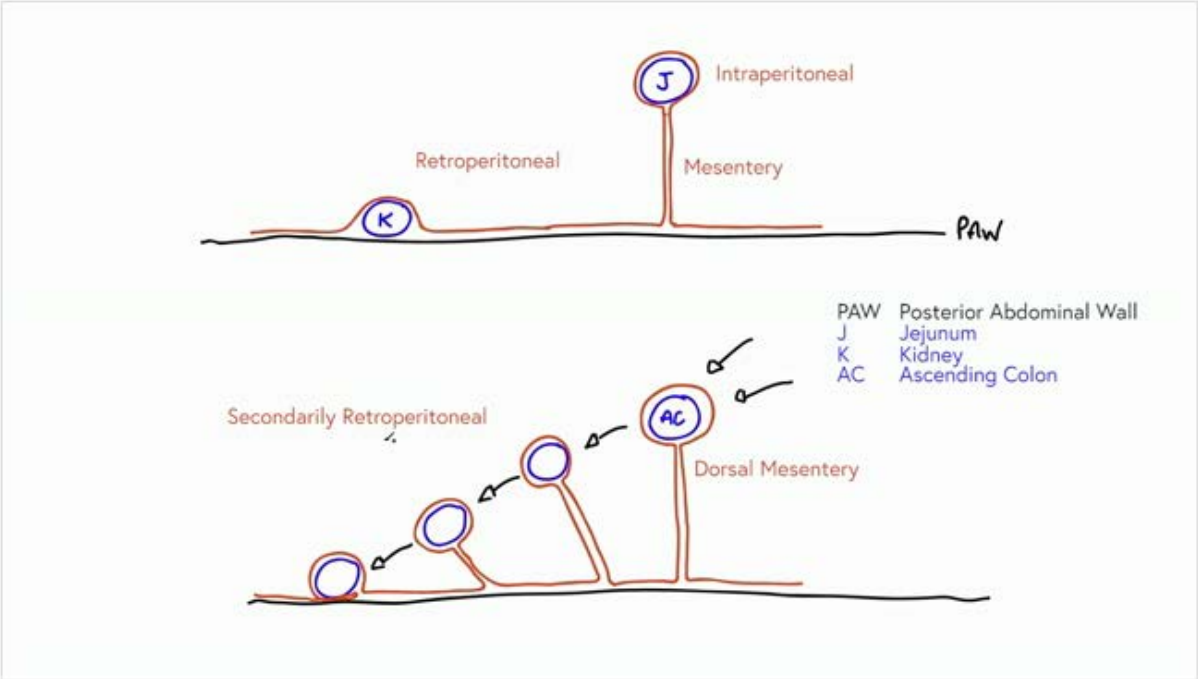


We have other organs that are retroperitoneal. These, like the duodenum and the ascending or the descending colon, originally had a mesentery. So again, here we've got the posterior abdominal wall. And if we just look at, say, the ascending colon. And as you're aware, the entire length of the gastrointestinal tract was suspended via the dorsal mesentery. So let's drawn in this dorsal mesentery.

So originally, the entire GI tracts was suspended via the dorsal mesenteries. So here, we can just have the dorsal mesentery. But as the small intestines elongated in length, and got bigger and bigger, they pushed various parts of the gastrointestinal tracts to the sides. So the ascending colon and the descending colon and the duodenum were pushed against the posterior abdominal wall.

So if we just follow this, we can see that this portion of ascending colon is going towards the posterior abdominal wall. As the small intestine got bigger and bigger, it elongated. It effectively pushed the ascending and descending colon and the duodenum towards the posterior abdominal wall.

So what effect did this have on the mesentery? Well it retained its mesentery as it was being pushed to the posterior abdominal wall. But as hopefully you can appreciate, as the ascending or descending colon, duodenum, got pushed through the posterior abdominal wall, the mesentery actually laid alongside the parietal peritoneum of the posterior abdominal wall.



So here we can see, as the ascending colon is collapsing, so the mesentery is going to lay against the posterior abdominal wall. And this creates an organ that is known as being secondarily retroperitoneal. Secondarily retroperitoneal as it originally had a mesentery and was intraperitoneal. So now this organ is known as being secondarily retroperitoneal. Ascending colon, descending, colon, and the duodenum are examples of this.

[end of transcript]