#05 How to prevent, identify and manage infiltration and extravasation

Transcript:

00:00:00 **Servane Pelle-Lombardy**

Welcome, welcome everyone to the BD IV News Podcast and more specifically to our special series, Vascular Access Insights.

And remember, this is where clinical insight meets practical care.

We're here to support and empower your practice one episode at a time.

So grab your status cup or your coffee and let's get started.

In today's episode, we are diving into a critical yet often underestimated aspect of vascular access: the prevention and management of two complications: infiltration and extravasation.

These complications can escalate quickly, turning a routine infusion into a serious clinical event if not recognized and addressed promptly.

I'm your host, Servane Pelle-Lombardy, Associate Director of Medical Affairs for BD's MDS EMEA, and I'm pleased to introduce 2 experts whose clinical experience and knowledge will guide us through today's topic.

Professor Vincent Piriou, hello, welcome.

00:01:03 **Prof. Vincent Piriou**

Hello, Servane.

00:01:05 **Servane Pelle-Lombardy**

Thanks for joining.

Professor Piriou, your anesthesiologist and critical care physician and the president of the medical committee at Hospice Civil de Lyon in France.

And welcome to you, Noemi.

Hi.

00:01:18 **Noemí Cortés Rey**

Hello, always a pleasure to catch up with you.

00:01:22 **Servane Pelle-Lombardy**

It's a sure pleasure.

Thanks so much for joining.

Noemí Cortés, you're the nurse training and teaching supervisor at the University Hospital of Acoronia in Spain.

So recent evidence demonstrate that infiltration incidents range from 13 to 20% approximately, and extravasation is obviously less frequent but with a reported incidence of up to 4.5% still.

It seems that a lot of patient and procedure-related factors may increase the risk of infiltration and extravasation.

So Noemi, Vincent, based on your experience, what are the most effective and reliable strategies for preventing infiltration and extravasation to a cure?

00:02:12 **Noemí Cortés Rey**

First of all, before focusing in this topic, I think I've noticed sometimes people think both terms means the same, extravasation and infiltration, but they're not.

Just to clarify, extravasation means leakage of vesicant or irritating fluids according to extreme pH or osmolarity, which can cause tissue damage in the body, why infiltration refers to non-vesicant fluids leaking into the surrounding tissue.

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So what do you think about it, even this Vincent?

00:02:55 **Prof. Vincent Piriou**

These events are quite infrequent, but they are most of the time under-recognized and very poorly managed because knowledge is not very widespread.

They can induce pain, necrosis, infection, and sometimes compartment syndrome with long-term damage.

Until recently, we didn't have good standardization to take care of those events.

But in February 2024, we have now very good reference because Nivas in UK published a great toolkit on this topic.

It's focused on three Things.

First is prevention, the second one is early detection, and the third one is early and appropriate response.

What do you think, Noemi?

00:03:57 **Noemí Cortés Rey**

We can talk about risk factors and we can start with who is most at risk.

And I think there are some especially fragile populations, like infants, older adults, and anyone with delicate or hard to see veins, they need extra attention.

Also, people with cognitive issues or limited mobility are also more vulnerable.

00:04:23 **Prof. Vincent Piriou**

There are obviously some clinical factors, such as those you spoke, but there are as well some catheter-related risk.

To reduce this risk, we need to standardize the procedure.

We need to insert the good catheter to the good patient.

Pull fixation, wrong choice of device will let those, will increase the risk of those side effects.

And we don't need to forget the drug.

Chemotherapy, contrast media, hyperosmolar, vasoactive medication are all at risk when they are not used on the good catheter, they have to be inserted, infused in a central line.

Use of transparent the dressing is also very important to detect early those complications.

00:05:21 **Noemí Cortés Rey**

And we can also cite those risks which are related to the process itself, like long-term infusions, high-pressure infusions, and sometimes in the delay in detecting those complications, for instance, if we do not check the line often enough, how could we prevent infiltration or extravasation?

00:05:46 **Prof. Vincent Piriou**

The major key is to work in a multidisciplinary team.

It's very important to select the right drugs, the right dilutions, the right access.

And education is very important: education of the patient, education of the nurse, and when I meet...

In multidisciplinary team, it obviously includes pharmacists whose knowledge is very important to reduce the risk.

00:06:15 **Noemí Cortés Rey**

Completely agree. I think that it's crucial to work closely with the pharmacy service.

They can provide us a lot of information related with infusions and real recommendations in order to prevent these complications.

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And during this session as well, we can act like choosing the right device and the best area for the patient, for the line.

We should avoid joint areas and use a proper fixation, maybe using ultrasound guidance as well.

And we cited before a strategy during the infusion, but it's also important to Development inspection frequently, at least every two hours, with risky infusions.

And of course, education of staff and patients is crucial.

Patients should know that they have to speak up immediately if they notice any discomfort, any pain, or any neutral sensation.

00:07:23 **Prof. Vincent Piriou**

As we said, the insertion of the right catheter is very important, but the right area is very important also.

We should avoid joint areas.

Ultrasound guidance is also very helpful to reduce this risk.

00:07:40 **Noemí Cortés Rey**

Smart pumps can be helpful as well, but we shouldn't rely only on technology.

We should do frequent monitoring of the lines, And if this occurred, we have to act immediately.

If you suspect extravasation or infiltration, what would you do Vincent?

00:08:04 **Prof. Vincent Piriou**

I think that early detection and immediate management are also very important.

Early detection has to be teached by teaching the first symptoms, like swelling, redness, pain, or no blood return.

It's another warning sign.

And as soon as you suspect extravasation or infusion, you need to stop the infusion immediately and leave the catheter in place.

It's very important.

00:08:39 **Noemí Cortés Rey**

OK.

Apply the appropriate care according to the pharmacy with vesicants or non-vesicants and having special care with this kind of risky drugs.

To wrap up, I think we should prevent early detect and also early treatment.

So what can you say as a summary?

00:09:06 **Servane Pelle-Lombardy**

Thank you.

Thank you so much for handing over, Noe.

Yes, and for the actually very insightful discussion and the practical tips that you've shared with our listeners today that I'm sure will walk away better equipped to prevent and manage these critical complications.

So if we have a close now with a quick recap of the most important insights you've shared.

I would pick the match the catheter type to the therapy duration, the patient characteristics and the infusate characteristics, especially for preventing infiltration and extravasation.

And if any doubt, your pharmacist is your go-to person for these questions.

The right vascular access device for the right patient, basically, and the therapy needs.

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Then identifying the complications very early, as you said, seems to be really key so as to limit the harm to the patients.

The early detection is very important.

Then ensuring, of course, that all the teams are trained regularly.

Simulation training can make a difference.

That's something you've highlighted, Vincent, I think.

And also use the valuable go-to resources.

So you've been speaking about the UK NIVAS Extravasation Toolkit, which is accessible on their website and indeed very useful to potentially adopt in your hospital.

Clear protocols must be very easy to access.

And then you've been talking also about the immediate management.

So if unfortunately those complications arise, then obviously it's very important for everyone, every clinician to have that in mind.

That very simple things such as stop the infusion and leave the VAD in place have to happen before managing and treating potentially the situation.

Patients should be educated to identify or support, identify early signs.

And in case it's occurring again, of course, everything should be documented and reviewed by a multidisciplinary team so as to provide an analysis of the situation and avoid those to cure again.

So prevention remains the very best strategy.

I think that's kind of the final conclusion.

Thanks again so much to both of you and thanks to all for tuning in.

In our next episode, we'll take a closer look at the PICC placement technique, so you don't want to miss it.

And remember, you are VAMbassadors and good access saves lives.

So stay connected.

Bye-bye.

See you.

Bye-bye.