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Treatment of a Patient With Cancer and With Catheter-Related Thrombosis

Announcer:

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Dr. Ay:

Hello, my name is Cihan Ay, and I am from the Medical University of Vienna, and it's my pleasure to welcome you to this session on the Treatment of a Patient with Cancer and with Catheter-Related Thrombosis.

I have a patient with colorectal cancer, a 71-year-old woman who is undergoing chemoradiotherapy for rectal cancer. For this purpose, a central venous catheter is inserted for administration of chemotherapy. And in clinical practice we have two different systems of central venous catheters, the traditional implanted port systems and the newer PICC systems. We know that there is a higher risk of thrombosis with the PICC systems compared to the port systems. After two cycles of therapy, which is administered via the right-sided peripherally inserted central catheter with the PICC, her treating physician notices a diffuse swelling of her entire right arm and edema of this arm. And upon questioning, the patient reports intermittent pain in the affected arm since 3 days. There is no chest pain, no dyspnea, no hemoptysis. And the decision is made to perform an ultrasound. And this ultrasound shows an obstruction and occlusion of the axillary and the subclavian vein. The patient has no history of bleeding, her renal function is fine, and her platelet count after chemotherapy is at 89, and there are no signs of infection present at the time. So a diagnosis of a catheter-related deep vein thrombosis of the right upper extremity is made.

The question now is: How should we treat this patient with cancer and a catheter-related thrombosis? What are the treatment options? The management in the treatment of catheter-related thrombosis is a kind of gray zone. There is lack of high-quality evidence. The recommendations that we have on the modalities and the therapeutic anticoagulation are mostly based on extrapolation of data from clinical trials on cancer-associated deep vein thrombosis and pulmonary embolism, and on observational studies of patients with catheter-related thrombosis.

For instance, a systematic review on the treatment of cancer-related thrombosis has shown a large variation in the treatment modalities and the treatment duration. Why should we treat catheter-related thrombosis? There is a risk of recurrent of around 7% based on a systematic review, and the risk of major bleeding is around 3 to 5% in anticoagulated patients. However, in clinical practice, there is also a significant number of patients who do not receive anticoagulation, but rather are being treated with removal of the catheter alone.

What are the guideline recommendations for the treatment of catheter-related thrombosis? The international guidelines from various societies and institutions recommend anticoagulant treatment of catheter-related thrombosis with symptoms for at least 3 months, and as long as the central venous catheter is in place, and low-molecular-weight heparin are suggested in the setting. However, there are no direct comparisons of low-molecular-weight heparins, direct oral anticoagulants, and vitamin K antagonists; and therefore, also vitamin K antagonists or DOAC may be considered as alternative options if low-molecular-weight heparin is not working.

Another important question, and frequent question in clinical practice, is whether a catheter should be removed or not. So here also, we

have guidance from the international guidelines and in patients with catheter-related thrombosis. If the catheter is functional, well positioned, and if there are no signs of infection, and if there is a good resolution of symptoms of the deep vein thrombosis of the upper extremity, so you can keep the catheter in place while anticoagulation therapy is administered. However, there are no standard approaches in terms of the duration of anticoagulation that are established in clinical practice.

Is there a role for primary thromboprophylaxis of catheter-related thrombosis? We have all the data that did not show a favorable benefit-risk ratio; and therefore routine pharmacological prophylaxis of catheter-related thrombosis is not recommended.

How did we manage this patient? So we started anticoagulation with full-dose low-molecular-weight heparin, the catheter was functional and left in place. The symptoms of the catheter-related thrombosis have resolved during anticoagulation treatment already after 5 to 7 days, and the patient received the next cycles of adjuvant chemotherapy via this central venous catheter. There were no recurrent venous thromboembolic event, and no bleeding complications. And after a total of 4 months, the decision was made to terminate anticoagulation and then the catheter was removed.

Thank you so much for listening.

Announcer:

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