The efficacy of peripherally inserted central catheter in cancer chemotherapy

Hisashi Suyama1, Takashi Sumikawa2, Naomi Adachi3, Yusuke Nakase4, Miwako Makima4, Yoshito Fujimatsu5
1Department of Medical Oncology, Tottori Prefectural Central Hospital
2Department of Respirology, Tottori Prefectural Central Hospital
3Department of Outpatient Treatment Unit, Tottori Prefectural Central Hospital
4Department of Pharmacy, Tottori Prefectural Central Hospital
5Cancer Counseling and Support Service Center, Tottori Prefectural Central Hospital

Background: A peripherally inserted central catheter (PICC) can be inserted easily in approximately ten minutes using a needle guide and ultrasound. The greatest benefit of PICC is that mechanical complications can be avoided. PICC can be inserted on an outpatient basis because of its high level of safety. In our division, the number patients receiving PICC has increased rapidly since October 2013. Now, PICC is the first choice when central venous catheters are needed in our division.

Methods: We investigated 200 patients, with written informed consent, who received PICC in our division from October 2013 to January 2015 retrospectively.

Results: Among a total of 200 patients who received PICC, 124 patients received chemotherapy for various types of cancer. 72 patients received chemotherapy on an outpatient basis. The median indwelling time among patients who have received chemotherapy are 78.00 days (95% CI 63.13-92.86) and among patients who have received chemotherapy as outpatients are 94.00 days (95% CI 70.87-117.12), respectively. The chemotherapeutic regimens given to outpatients included combination chemotherapy consisting of cisplatin and vinorelbine for lung cancer, docetaxel, cisplatin and 5-fluorouracil for esophageal cancer. Four breast cancer patients and three lung cancer patients received PICC and completed adjuvant chemotherapy without any hospitalization.

Conclusions: We could give chemotherapy to various kinds of cancer patients including lung cancer, breast cancer, esophageal cancer using short hydration regimen containing cisplatin and continuous administration for 120 hours of 5-fluorouracil using PICC. It is particularly worth noting that PICC is highly efficacious in chemotherapy and the patients can receive standard chemotherapy with maintenance of PICC even on an outpatient basis.