

Evaluation of the Effect of PETCT in the Examination and Diagnosis of Lymphoma Patients

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Abstract: Objective: To analyze the effect of PET in the diagnosis of lymphoma. Methods: 42 patients with lymphoma admitted to our hospital from January 2018 to December 2019 were selected as the study subjects. All patients were examined by ultrasound and PETCT, and the examination results were observed and analyzed. Results: The positive rate of ultrasonic examination was 69.05% (29/42), and the positive rate of PET examination was 78.57% (33/42). There was significant difference between groups ($P<0.05$); The sensitivity, specificity and accuracy of PETCT in lymphoma patients were 91.67%, 83.33% and 90.48%, respectively. There was significant difference between the two groups ($P<0.05$). Conclusion: PETCT examination of lymphoma patients has high positive detection rate, sensitivity, specificity and accuracy, and can make accurate diagnosis of the disease.

Keywords: Lymphoma; PETCT; Diagnosis

Introduction

Lymphoma is a malignant tumor disease originating from the lymphohematopoietic system, which has a high incidence rate in China^[1]. Lymphoma patients often have clinical symptoms such as night sweating, fever, emaciation and itching after the onset, which will affect the physical and mental health and quality of life of patients. If the patients cannot be properly treated, the disease will endanger the life safety of patients. Before clinical treatment for lymphoma patients, it is necessary to check and diagnose the patient's condition, and carry out targeted treatment for patients according to the inspection results. Therefore, a reasonable inspection and diagnosis mode plays a very important role. This article mainly studies the effect of PET in the examination and diagnosis of lymphoma patients, as shown below.^[2]

1. Data and methods

1.1 Data

42 lymphoma patients admitted by Hohhot First Hospital from January 2018 to December 2019 were selected as the subjects of this study. Among all the selected patients, there were 28 male patients and 14 female patients, the minimum age was 26 years old, the maximum age was 71 years old, with an average of 48.53 ± 4.66 years old.

1.2 Methods

All patients received ultrasonic examination and PETCT examination. The ultrasonic examination method is: use the PhillipHD11 color Doppler ultrasound diagnostic instrument produced by Phillip Company in the Netherlands for examination and diagnosis. The probe frequency is $5.0 \sim 7.5$ MHz. Use the fan scanning probe and the abdominal probe to jointly scan the pelvic cavity of all patients. At the same time, pay attention to the location, scope, size, echo Blood flow

signal, etc., send the examination results to the attending physician to provide targeted treatment for patients. PETCT examination method: use Biograph16HRPET-CT scanner produced by Siemens in Germany to examine and diagnose the patient, instruct the patient to fast for 6 hours before examination, and control the patient's blood glucose level below 7.0 mmol/L to improve the quality of examination; Then, the patient was given intravenous injection of F-FDG with a dose of 3.70 ~ 5.55 MBq/kg to keep the patient quiet for 60 minutes, and then PET was performed. The slice thickness was controlled at about 5.0 mm, and transverse, sagittal and coronal images were obtained to diagnose the patient's condition.^[3]

1.3 Observations

The positive detection of lymphoma patients and the sensitivity, specificity and accuracy of the two methods were observed and compared.

1.4 Data processing

SPSS22.0 software was used to process the data in the paper. For counting data χ^2 Inspection and percentage (%) statement. $P < 0.05$ indicates statistically significant.

2. Results

2.1 Positive detection of lymphoma patients

The positive rate of patients with lymphoma was 69.05% (29/42) after ultrasonic examination and 78.57% (33/42) after PETCT examination, with significant difference between groups ($P < 0.05$).

2.2 Comparison of sensitivity, specificity and accuracy of the two methods

The sensitivity, specificity and accuracy of PETCT in lymphoma patients were 91.67%, 83.33% and 90.48% respectively. There was significant difference between the two groups ($P < 0.05$).

3. Discussion

Lymphoma is a kind of tumor disease that has a certain impact on the health of patients in clinic. If we do not do a good job in the diagnosis and treatment of the disease, it will not only affect the normal life of patients, leading to the continuous deterioration of the patient's condition, and even lead to the death of patients. Therefore, in order to ensure the smooth progress of the patient's disease treatment, it is necessary for the detection personnel to carry out strict detection of the patient's disease.^[4]

In the past, ultrasonic diagnosis, as a common diagnostic measure used by inspectors during disease diagnosis, can provide more help for patients' disease treatment. However, with the continuous improvement of medical technology in China, in order to promote the quality of patient diagnosis, PETCT diagnostic measures are more and more widely used in the actual diagnosis work. PETCT examination is a new examination method, which can check the proliferation of tumor cells, organ functions and body blood perfusion of patients. It is not only conducive to the diagnosis of patients' diseases, but also can help medical staff to judge the tumor stages of patients, improve the accuracy of patients' disease diagnosis, and actively help patients to continue to promote disease treatment, It is an important means to improve the relationship between doctors and patients.^[5]

Lymphoma is a common malignant tumor disease in clinic. It originates from the lymphohematopoietic system and is related to virus, pathogen infection, gene mutation and other factors . Most patients with lymphoma will have painless lymph node enlargement, as well as fever, itching, emaciation and other clinical symptoms, which pose a serious threat to the health

and life safety of patients. [6] In clinical practice, before the treatment of lymphoma patients, it is necessary to check and diagnose the patients' diseases to determine their specific pathological conditions, and then formulate targeted treatment for patients to improve the treatment effect. In the past, ultrasonic examination was mainly performed on patients in clinical practice. This method can play a better diagnostic effect, but it is still prone to misdiagnosis and missed diagnosis. PETCT can check the growth of tumor cells, organ function, body blood perfusion, etc., and can significantly improve the accuracy of diagnosis. The results showed that the positive rate of patients with lymphoma was 69.05% (29/42) after ultrasonic examination and 78.57% (33/42) after PETCT examination, with significant difference between groups ($P < 0.05$); The sensitivity, specificity and accuracy of PETCT in lymphoma patients were 91.67%, 83.33% and 90.48% respectively. There was significant difference between the two groups ($P < 0.05$). To sum up, PETCT examination for lymphoma patients can significantly improve the positive detection rate of the disease and the diagnostic accuracy of the disease, with high application value.[7]

References

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