Penilaian microsatellite instability melalui ekspresi PMS2 dan MSH6 serta tumor infiltrating-lymphocytes pada kanker kolorektal kiri dan kanan = Assessment of microsatellite instability trough PMS2 and MSH6 expression and tumor infiltrating-lymphocytes in left and right sided colorectal cancer

Chandra Dewi Kartika Setyaningsih, author

Abstrak

ABSTRAK
 Latar Belakang :
Karsinoma kolorektal (KKR) merupakan penyebab kematian kedua di dunia dari seluruh jenis kanker. KKR dapat disebabkan oleh defek dari MMR DNA. Microsatellite instability (MSI) adalah penanda defek MMR DNA. KKR MSI-H memiliki gambaran karakteristik tertentu. Tumor-infiltrating-lymphocyte (TIL) merupakan faktor prognosis. Hilangnya ekspresi PMS2 dan MSH6 dapat sebagai penanda MSI. Penelitian ini bertujuan untuk menilai terjadinya MSI pada KKR di sisi kiri dan sisi kanan kolon melalui Hilangnya ekspresi PMS2 dan MSH6, serta mengetahui hubungan antara TIL dengan MSI-H.
Bahan dan Metode :
Dilakukan pulasan IHK PMS2 dan MSH6, serta penghitungan TIL. Penilaian dilakukan dengan menghitung hilangnya ekspresi PMS2 dan MSH6 pada inti sel dan dikelompokkan ke dalam kelompok mutasi dan tidak mutasi .Penghitungan TIL juga dikelompokkan ke dalam TIL tinggi dan rendah, berdasarkan nilai titik potong
Hasil :
Didapatkan 27,8% kasus menunjukkan hilangnya ekspresi PMS2 dan MSH6 dengan 14,4% kasus di distal kolon. TIL terbanyak di distal kolon 30% kasus. Tidak terdapat perbedaan bermakna antara mutasi PMS2 dan MSH6 dengan lokasi (p=0,829) dan TIL (p=0,187). Terdapat perbedaan bermakna antara usia dan lokasi (p=0,020) serta peningkatan ekspresi PMS2 dengan MSH6 (p=0,06).
Kesimpulan :
MSI-H ditemukan pada 27,8% kasus. Penggunaan PMS2 dan MSH6 pada penelitian ini belum dapat menggantikan 4 panel IHK. Terdapat kecenderungan dimana adenokarsinoma NOS memiliki frekuensi mutasi lebih tinggi dari adenokarsinoma musinosum.
ABSTRACT
 Background : Colorectal carcinoma (CRC) is the world second leading cause of death from all types of cancer.
CRC can be caused by a defect of MMR DNA. Microsatellite instability (MSI) is a marker of DNA MMR defect. CRC MSI-H has a certain characteristic figures. Tumor-infiltrating lymphocytes (TIL) isone of prognostic factor. Loss expression of the PMS2 and MSH6 can be use as a marker of MSI. This study aims to assess the occurrence of MSI in CRC on the left side and the right side of the colon through the loss of expression of PMS2 and MSH6, and determine the relationship between TIL with MSI-H.
Materials and Methods :

Immunohistochemical staining using two marker, there is PMS2 and MSH6. We also counting the number of TIL. Assessment by calculating the loss expression of PMS2 and MSH6 in the cell nuclei and divided into two groups, the mutations and non mutations . TIL result also grouped into high and low, based on the cutoff point.
Result :
There are 27.8% of cases showed loss of expression of PMS 2 and MSH6 with 14.4% of cases in the distal colon. About 30% TIL cases located in distal colon. There were no significant differences between PMS2 and MSH6 mutation with the location (p = 0.829) and TIL (p = 0.187). There are significant differences between age and location (p = 0.020) and increased expression of PMS2 with MSH6 (p = 0.06). \
Conclusion :
MSI-H was found in 27.8% of cases. The use of PMS2 and MSH6 in this study have not been able to replace 4 panels of IHC. There is a tendency where the adenocarcinoma NOS have a higher mutation frequency than mucinous adenocarcinoma. ;Background :
Colorectal carcinoma (CRC) is the world second leading cause of death from all types of cancer. CRC can be caused by a defect of MMR DNA. Microsatellite instability (MSI) is a marker of DNA MMR defect. CRC MSI-H has a certain characteristic figures. Tumor-infiltrating lymphocytes (TIL) isone of prognostic factor. Loss expression of the PMS2 and MSH6 can be use as a marker of MSI. This study aims to assess the occurrence of MSI in CRC on the left side and the right side of the colon through the loss of expression of PMS2 and MSH6, and determine the relationship between TIL with MSI-H.
Materials and Methods :
Immunohistochemical staining using two marker, there is PMS2 and MSH6. We also counting the number of TIL. Assessment by calculating the loss expression of PMS2 and MSH6 in the cell nuclei and divided into two groups, the mutations and non mutations . TIL result also grouped into high and low, based on the cutoff point.
Result :
There are 27.8% of cases showed loss of expression of PMS 2 and MSH6 with 14.4% of cases in the distal colon. About 30% TIL cases located in distal colon. There were no significant differences between PMS2 and MSH6 mutation with the location (p = 0.829) and TIL (p = 0.187). There are significant differences between age and location (p = 0.020) and increased expression of PMS2 with MSH6 (p = 0.06). \
Conclusion :
MSI-H was found in 27.8% of cases. The use of PMS2 and MSH6 in this study have not been able to replace 4 panels of IHC. There is a tendency where the adenocarcinoma NOS have a higher mutation frequency than mucinous adenocarcinoma. ;Background :
Colorectal carcinoma (CRC) is the world second leading cause of death from all types of cancer. CRC can be caused by a defect of MMR DNA. Microsatellite instability (MSI) is a marker of DNA MMR defect. CRC MSI-H has a certain characteristic figures. Tumor-infiltrating lymphocytes (TIL) isone of prognostic factor. Loss expression of the PMS2 and MSH6 can be use as a marker of MSI. This study aims to assess the occurrence of MSI in CRC on the left side and the right side of the colon through the loss of expression of PMS2 and MSH6, and

determine the relationship between TIL with MSI-H.

Materials and Methods :

Immunohistochemical staining using two marker, there is PMS2 and MSH6. We also counting the number of TIL. Assessment by calculating the loss expression of PMS2 and MSH6 in the cell nuclei and divided into two groups, the mutations and non mutations . TIL result also grouped into high and low, based on the cutoff point.

Result :

There are 27.8% of cases showed loss of expression of PMS 2 and MSH6 with 14.4% of cases in the distal colon. About 30% TIL cases located in distal colon. There were no significant differences between PMS2 and MSH6 mutation with the location ($p = 0.829$) and TIL ($p = 0.187$). There are significant differences between age and location ($p = 0.020$) and increased expression of PMS2 with MSH6 ($p = 0.06$). \

Conclusion :

MSI-H was found in 27.8% of cases. The use of PMS2 and MSH6 in this study have not been able to replace 4 panels of IHC. There is a tendency where the adenocarcinoma NOS have a higher mutation frequency than mucinous adenocarcinoma.