Penilaian respon terapi neoadjuvan pada kanker payudara lanjut lokal dengan sistem Miller-Payne dan penanda apoptosis TUNEL = Pathological response assessment of neoadjuvant chemotherapy in locally advanced breast cancer with MP system and TUNEL

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Abstrak

[ABSTRAK
 Latar belakang : Kanker payudara lanjut lokal (KPLL) adalah kanker payudara stadium III.Modalitas terapi KPLL adalah pembedahan, kemoterapi, radioterapi, hormonal terapi dan terapi target. Respon kemoterapi neoadjuvan terdiri dari respon klinis dan respon patologi. Penilaian respon kemoterapi neoadjuvan penting untuk memprediksi angka ketahanan hidup dan dapat menjadi pedoman kemoterapi selanjutnya. Penilaian respon patologi selama ini bersifat kuantitatif dan sering tidak selaras dengan respon klinis. Perubahan jumlah selularitas dapat terlihat, tetapi kualitas sel tumor tersebut tidak dapat diketahui dengan pulasan Haematoxylin-eosin (HE) pada fase awal fragmentasi DNA, sehingga penilaian respon patologi perlu dilakukan secara kuantitatif dan kualitatif yaitu menilai selularitas sel tumor dan persentase apoptosis.
Bahan dan cara : Dilakukan penelitian retrospektif analitik secara potong lintang pada kanker payudara lanjut lokal tahun 2010-2014 di Departemen Patologi Anatomi FKUI/RSCM dan divisi bedah onkologi RSCM. Sampel biopsi dan reseksi dibandingkan untuk mengevaluasi penurunan selularitas, kemudian diklasifikasikan ke derajat Miller- Payne (MP). Sampel reseksi dipulas dengan TUNEL dan dihitung persentase apoptosis. Penurunan selularitas antara biopsi dan mastektomi dengan TUNEL merupakan Modifikasi MP. Hasil : Perubahan respon patologi dengan Modifikasi MP menimbulkan peningkatan derajat pada 24 kasus. Tidak terdapat hubungan antara respon klinis dengan persentase apoptotis (p=0,108), respon klinis dengan MP (p=1,000) dan Modifikasi MP (p=0,655). Tidak didapatkan hubungan dan adanya korelasi yang lemah antara penyusutan massa tumor secara klinis dengan jumlah sel tumor yang mati dengan MP (p=0,177; r =0,212) dan Modifikasi MP (p=0,609; r = 0,081). Terdapat perbedaan signifikan antara jumlah sel mati yang dinilai dengan MP dan Modifikasi MP (p =0,000).
Kesimpulan : Persentase apoptosis tidak berhubungan dengan respon klinis. Modifikasi MP meningkatkan nilai derajat respon patologik, tetapi penilaian Modifikasi MP tetap tidak menunjukkan korelasi dengan respon klinik.ABSTRACT Background: Locally advanced breast cancer (LABC) is a stage III breast cancer. The management of LABC includes surgery, chemotherapy, radiotherapy, hormonal and targeted therapy. Responses to neoadjuvant (before surgery) chemotherapy consist of clinical and pathological responses. Evaluating chemotherapy response is essential to predict survival rate and it may become guidelines for the next chemotherapy in the future. Until now, the evaluation of pathological response only involves quantitative assessment and the clinical responses are often inconsistent with the pathological responses. Morphological changes of apoptotic cells can still be seen. However, the quality of the tumor cells is vague when the cells are stained with Hematoxylin-eosin (HE) during the first stage of DNA fragmentation. The evaluation of pathological responses; therefore, need to be performed by quantitative and qualitative methods, i.e. by evaluating the cellularity of tumor cells and the percentage of apoptosis.

Materials and method: A cross-sectional analytical retrospective study was conducted on the issue of locally advanced breast cancer between 2010 and 2014 at the Department of Anatomical Pathology, Faculty of Medicine Universitas Indonesia, Cipto Mangunkusumo Hospital and Division of Surgical Oncology, Cipto Mangunkusumo Hospital. Specimens of biopsy and resection were compared to evaluate reduction in cellularity, which were subsequently categorized into stages of Miller-Payne (MP) classification. The specimens of resection were stained with TUNEL and the percentage of apoptosis was calculated. Reduction in cellularity between biopsy and mastectomy specimens with TUNEL staining is a modified MP methods. Results: The evaluation of pathological responses using the modified MP method has increased the value of MP grading in 24 cases. We found no association between clinical responses with percentage of apoptosis (p=0,108), MP pathological responses (p=1,000) and modified MP (p=0,655). There is no association and weak correlation between decreasing tumor mass with MP (p=0,177; r=0,212) and modified MP (p=0,609; r=0,081). There was a correlation between the dead cell evaluated by MP and by modified MP. (p=0.000) Conclusion: Apoptosis percentage does not correlate with clinical responses. Modified MP increases the degree or grading of pathological responses, but it does not improve the correlation with clinical responses., Background: Locally advanced breast cancer (LABC) is a stage III breast cancer. The management of LABC includes surgery, chemotherapy, radiotherapy, hormonal and targeted therapy. Responses to neoadjuvant (before surgery) chemotherapy consist of clinical and pathological responses. Evaluating chemotherapy response is essential to predict survival rate and it may become guidelines for the next chemotherapy in the future. Until now, the evaluation of pathological response only involves quantitative assessment and the clinical responses are often inconsistent with the pathological responses. Morphological changes of apoptotic cells can still be seen. However, the quality of the tumor cells is vague when the cells are stained with Hematoxylin-eosin (HE) during the first stage of DNA fragmentation. The evaluation of pathological responses; therefore, need to be performed by quantitative and qualitative methods, i.e. by evaluating the cellularity of tumor cells and the percentage of apoptosis.
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