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Automated Morphometry of Neutrophilic Granulocytes – a Simple and Reliable Method of Assessment of the Wound Process Activity

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Absence of single algorithms of diagnostics and treatment of wounds points out the necessity of an individual approach to such patients with clear determination of the phase, nature and peculiarities of the wound process. One of the objective methods for assessment of the wound process is the determination of the functional activity of neutrophilic granulocytes by their morphometric analysis. Earlier such studies required difficult calculations and special equipment. But development of computer technologies allowed to make this process easier after automation of the calculation of the morphometric indices. The use of the integral index of the neutrophilic granulocyte form factor (FFNG), providing determination of the area-perimeter ratio of these cells, is of great interest. To confirm the efficacy of the determination of the index of neutrophilic granulocyte form factor in case of a wound process we compared it with the results of the existing methods of control over the wound course. After the conducted statistical analysis, clear correlation relationships of the FFNG index with the results of the other studies were established that allowed to confirm the objectivity and reliability of this index for assessment of the wound process activity and to recommend it for the use in clinical practice.