MEDICAL IMAGE PROCESSING ALGORITHM

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Abstract
Currently, the role of medical imaging in medicine is very important. In particular, the development and implementation of information technologies and computer technologies lead to the emergence of new diagnostic and visualization methods and tools. With the help of modern medical technology, medical image visualization, image processing algorithm and medical image accuracy play an important role for the doctor to make a good diagnosis.

Keywords: Medical images, visualization, algorithm, information technology, computer technology, medical devices.

INTRODUCTION

Modern computer technologies and graphic visualization capabilities are considered as auxiliary qualities of the doctor in medicine. Almost any survey and diagnostic tool related to medical image processing has software and hardware tools for medical image processing and visualization. Medical imaging techniques are currently dependent on modern electronic medical devices in medicine. At the moment, in our country, medical examinations are being conducted with modern medical equipment. In the past, in healthcare, patients were treated with X-ray machines and had to wait a long time for the results, and the images were not clear and precise, and the accuracy percentage of the doctor's diagnosis with these images was very low. Currently, all medical devices are imaged using digital technologies in every polyclinic and private clinic, and the doctor's diagnosis of the patient depends on the accuracy of the medical images depends. According to the results of medical images obtained from modern medical devices, the doctor does not make a mistake in diagnosing the patient. The formation of images in various medical devices and their subsequent transmission through various channels causes distortions, so the first step in image processing is

filtering or eliminating low-frequency noise. Disease Diagnosis Algorithms - Algorithms such as neural networks, decision trees, and classification methods are used to analyze medical data and determine the likelihood of a patient developing a disease.
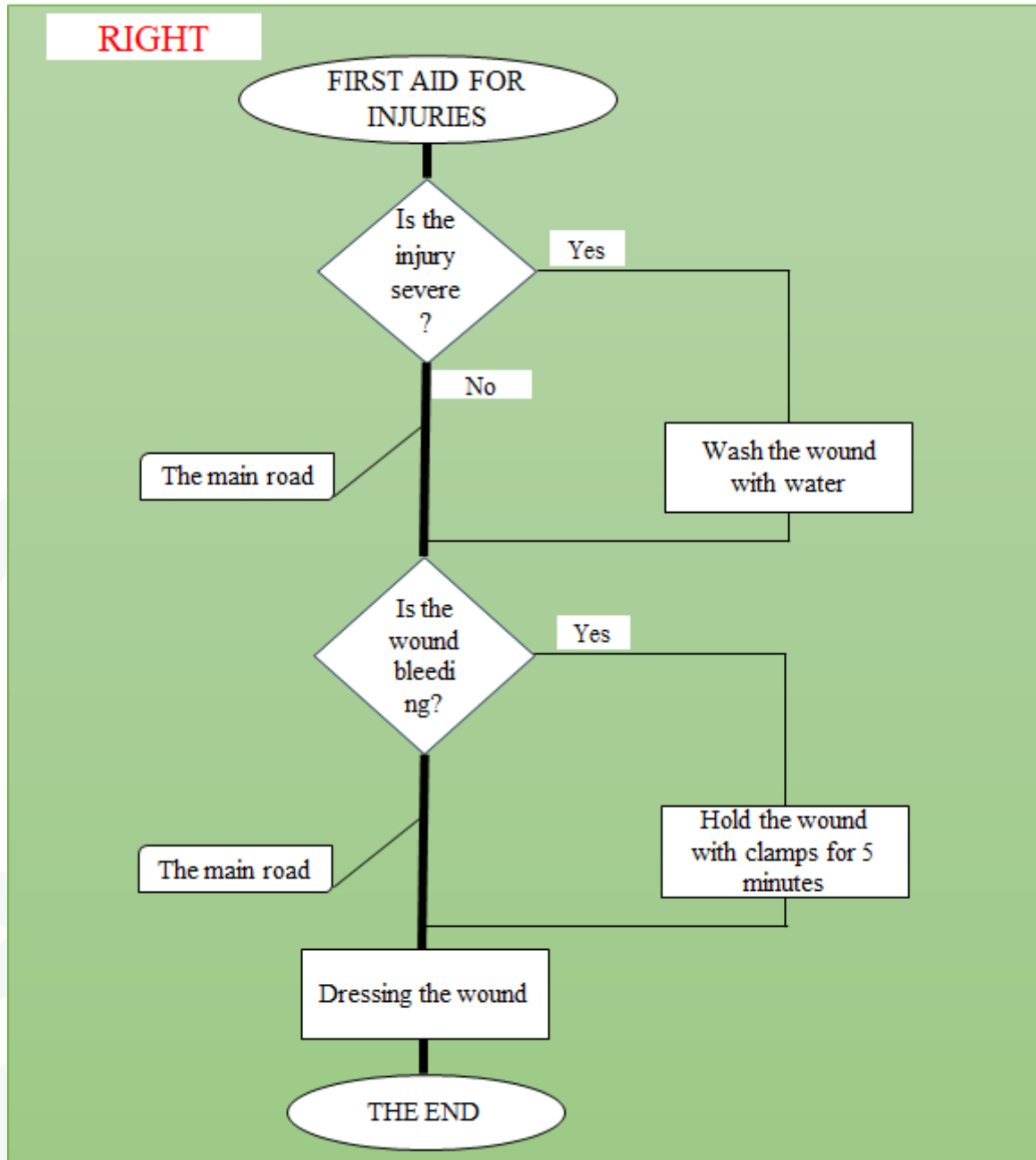
Algorithms for treatment decisions - Several decision criteria models are considered that take into account several factors such as age, gender, health status, diagnostic test results, etc, and suggest optimal treatment decisions.

Regression algorithms such as linear and logistic regression are used to predict the progression of diseases, as well as to evaluate the effectiveness of various treatments and medical methods.

Rapid analysis of images - medical image processing algorithms, such as algorithms for detecting tumors in magnetic resonance imaging and computer tomography, are used to increase diagnostic accuracy and determine further treatment.

Forecasting and modeling algorithms - Forecasting and modeling algorithms, such as analytical methods and intelligent decision support models, are used to estimate the likelihood of complications and predict treatment outcomes.

Summary:

All medical institutions in our country are being equipped with modern digital medical technology devices. Qualified doctors are able to prevent diseases by quickly and accurately diagnosing patients through digital medical technologies. The accuracy and clarity of the images guarantee that the diagnosis made by the doctor to the patient will not be wrong. Modern digital medical technology equipment includes computed tomography, ultrasound, cardio-echo, laboratory equipment and other medical devices.

REFERENCES

1. Гребенщикова, Е.Г. Персонализация медицины и медикализация будущего // Философские проблемы биологии и медицины. Сб. статей. М.: Моск. гос. медикостоматолог. университет им. А.И. Евдокимова, 2015. С. 75-77.

2. Баҳрамов Р. Р., Маликов М. Р., Абдурахмонов Р. П. ЗАБОЛЕВАНИЯ ВЫЗВАННЫЕ ГЕЛЬМИНТАМИ У ДЕТЕЙ И ПРОГНОЗ РАЗВИТИЯ ЭТИХ ЗАБОЛЕВАНИЙ //Eurasian Journal of Medical and Natural Sciences. – 2022. – Т. 2. – №. 5. – С. 58-62.

3. Бахрамов Р. Р., Маликов М. Р. БОЛАЛАРДА ПАРАЗИТЛАРНИ АНИҚЛАШДА ФУНКЦИОНАЛ ДИФФЕРЕНЦИАЛ ТЕНГЛАМАДАН ФОЙДАЛАНИШ УСУЛИ //Academic research in educational sciences. – 2021. – Т. 2. – №. 3. – С. 280-288.

4. Bakhramov R. R., Abdurakhmonov R. P., Malikov M. R. Diseases caused by helminths occuring in children of world countries and prognosis of these diseases //Web of Scientist: International Scientific Research Journal. – 2022. – Т. 3. – №. 3. – С. 330-334.

5. Баҳрамов Р. Р., Абдурахмонов Р. П., Маликов М. Р. ДУНЁ МАМЛАКАТЛАРИ БОЛАЛАРИДА УЧРАЙДИГАН ГИЖЖАЛАР (ГИЛЬМЕНТ) КЕЛТИРИБ ЧИҚАРАДИГАН КАСАЛЛИКЛАР ВА УШБУ КАСАЛЛИКЛАР ПРОГНОЗИ. EURASIAN JOURNAL OF MEDICAL AND NATURAL SCIENCES Innovative Academy Research Support Center UIF = 8.3 | SJIF = 5.995 www.in-academy.uz Volume 3 Issue 10, October 2023 ISSN 2181-287X Page 98

6. Баҳрамов Р. и др. БОЛАЛАРДА ГИЖЖА КАСАЛЛИГИНИ ПРОГНОЗ ҚИЛИШДА МАТЕМАТИК МОДЕЛЛАШТИРИШДАН ФОЙДАЛАНИШ //Eurasian Journal of Medical and Natural Sciences. – 2022. – Т. 2. – №. 12. – С. 172-177.

7. Rakhmatullaevich B. R. et al. STATISTICAL ANALYSIS OF MEDICAL DATA AND PROCESSING IN MS EXCEL //British View. – 2023. – Т. 8. – №. 1.

8. Баҳрамов Р., Абдурахмонов Р., Маликов М. ГИЖЖА КАСАЛЛИГИНИ ПРОГНОЗ ҚИЛИШДА МАТЕМАТИК СТАТИСТИКАДАН ФОЙДАЛАНИБ ИШОНАРЛИЛИК КОЭФФИЦИЕНТИНИ АНИҚЛАШ //Евразийский журнал права, финансов и прикладных наук. – 2023. – Т. 3. – №. 2. – С. 146-151.