Misuse of artificial intelligence in medical practice: a case report

Abstract:

Artificial intelligence (AI) defines technologies that imitate and improve human intelligence using machines, Chat GPT is a conversational agent capable of enabling an Internet user to chat instantly with a system based on artificial intelligence. Chat GPT excels in various fields, notably healthcare, providing medical information, describing complex terms, and giving provisional diagnoses, however the integration of ChatGPT in medicine presents limitations, such as the reliability of the information provided, as well as remaining limited in its ability to reason in complex ways. In medicine, it is crucial to combine data analysis with clinical considerations, a critical reflection that AI cannot replace.

We present the case of a patient who has had an anal mass for several years. The patient consulted ChatGPT for searching possible causes, the first aetiology mentioned being haemorrhoids, and among the proposed therapeutic options elastic ligation was cited. The patient attempted to perform this ligation independently using a thread, and he went to the emergency room due to the appearance of intense acute proctalgia ,The thread was removed with difficulty by the doctor, and symptomatic medical treatment was administered, the proctological examination that followed suggested an anal condyloma, which was confirmed by the anatomopathological results of the biopsy, and the patient was then referred for electrocoagulation of the condyloma

Keywords:

Artificial intelligence, chat GPT , hemorrhoid, condyloma.

Introduction:

As technology and societal infrastructure improve, so does the availability of medical information to the general public. With increasing access to the Internet, patients have far fewer barriers to acquiring adequate and often redundant medical knowledge [1].

Over the last few years, there has been a sudden expansion in the interest and involvement of artificial intelligence, commonly known as AI, in all areas of

technology in our daily lives, with the medical field being one of them, but if this technology is not used rationally, it could lead to worrying consequences.

We report a case of a patient who fell victim to the misuse of artificial intelligence .

Présentation of the case :

We present the case of a 35-year-old patient, with no particular history, history of the disease dates back 5 years by the appearance of an anal swelling progressively increasing in size during this period.

The patient consulted ChatGPT to look for possible etiologies, hemorrhoids were cited first, and elastic ligation proposed as a therapeutic option, an attempt at ligation at home made by the patient himself using a thread, then the patient consulted the emergency department in the face of the appearance of intense acute proctalgia.

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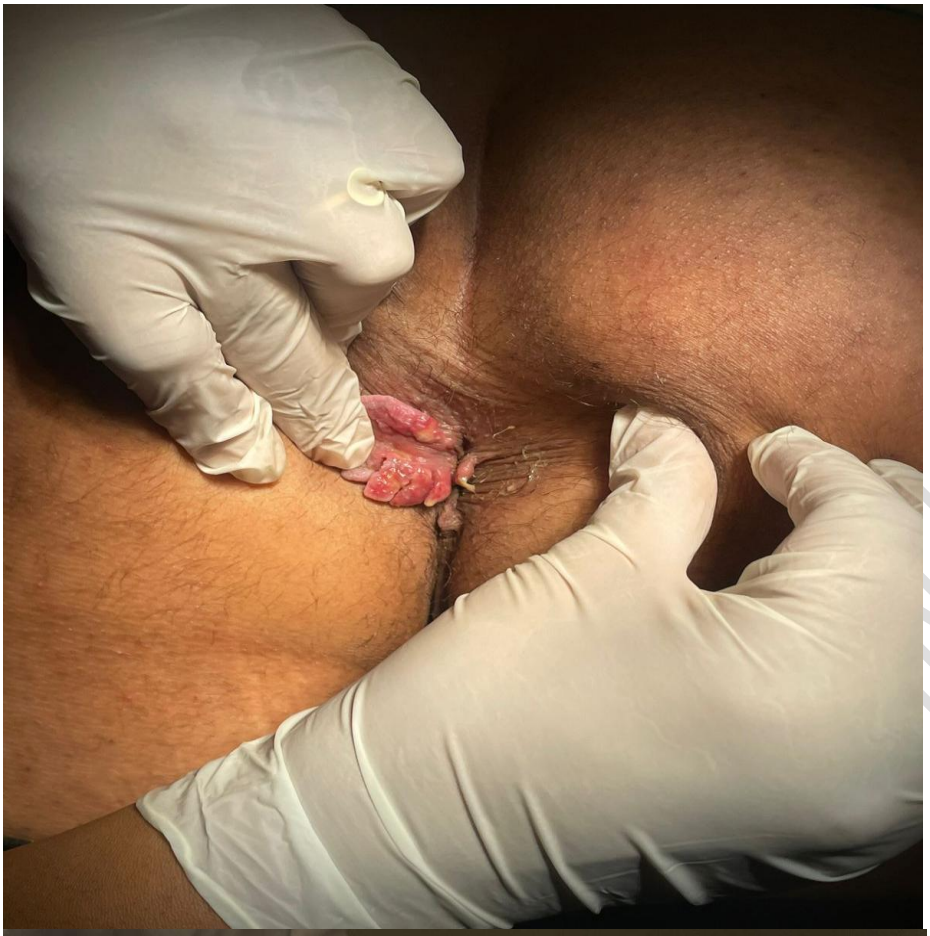
Figures 1,2 and 3: anal mass surrounded by a thread

The thread was removed with difficulty by the gastroenterologist, who administered symptomatic medical treatment, and the patient was seen again for a proctological consultation 5 days later. A follow-up proctological examination showed the presence of an approximately 3 cm long vegetative lesion with a rooster-crest appearance, initially suggestive of an anal condyloma, with the absence of haemorrhoidal fissure and fistula .



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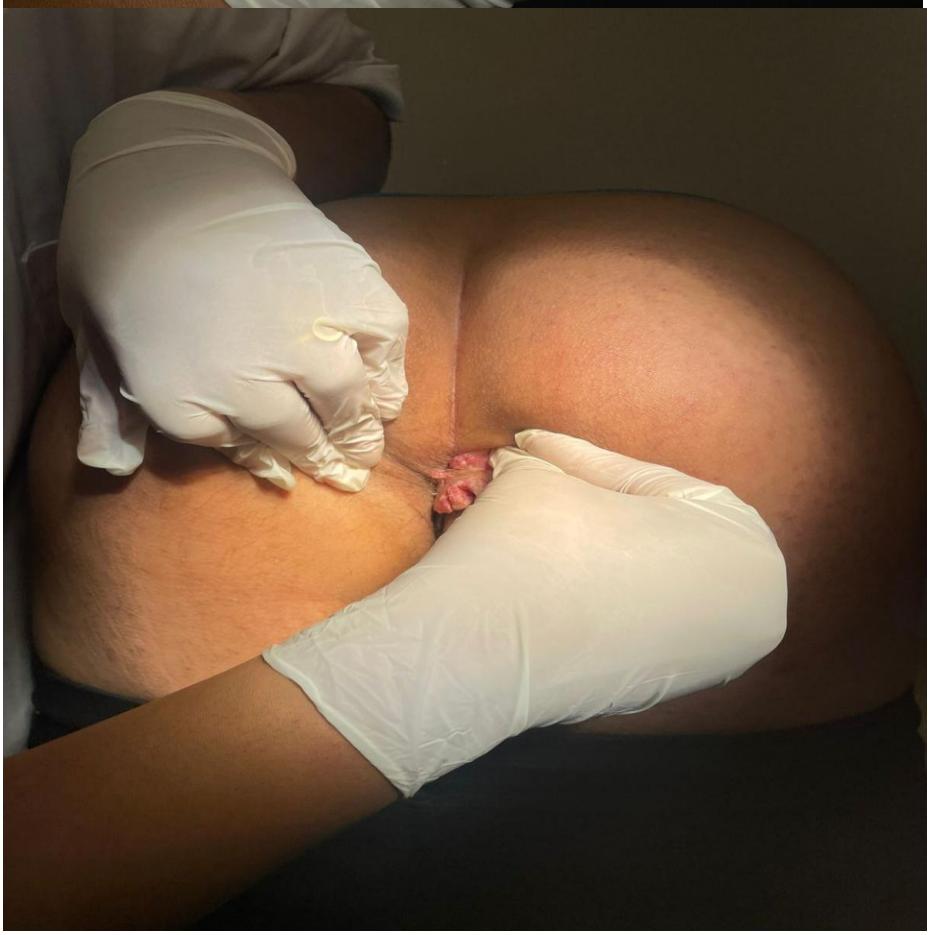

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Figures 4,5 and 6: aspect in favor of an anal codyloma

Anatomopathological results of the biopsies taken were in favour of an anal condyloma, a subsequent sexually transmitted infection (STI) test was negative and the patient was referred for electrocoagulation.

Discussion:

The name “artificial intelligence” AI refers to the sciences and technologies that imitate, extend and/or augment human intelligence with machines. The name AI was proposed in 1956 by John McCarthy [2] ,AI works through the use of machine learning algorithms and models, which enable machines to learn from data and improve their performance over time.

Chat GPT is a conversational agent (chatbot) using generative artificial intelligence, developed by OpenAI an American artificial intelligence (AI) company and launched on November 30, 2022[3].

ChatGPT is composed of the English words “chat” and “GPT” for “Generative Pre-trained Transformer”[4,5] ,It is a conversational robot available in multiple languages, offering variable performance depending on the language[6,7] . It has advanced capabilities in logical reasoning, task execution, information retrieval, image analysis, content development and other areas, making it ideal for integration in a variety of sectors, including healthcare.

-Among its current implications and potential in this field:

Accompanying the search for medical information , one of the most immediate uses of ChatGPT in the medical field is rapid and accurate access to information, patients and healthcare professionals can use this type of model to obtain explanations of complex medical terms, symptoms, diagnoses and treatments, ChatGPT can help popularize medical information, making it more accessible to the general public.

Using a pattern learning process that draws on substantial medical literature Chat GPT can extract relevant data, review patient feedback appropriately and provide provisional diagnoses , schedules of required diagnostic tests and medical-surgical recommendations [8].

-On the other hand, the integration of ChatGPT in the field of medicine and healthcare, while promising, has certain limitations: One of the main ones is the reliability of information ,in fact chatbots may encounter difficulties in identifying crucial information and differentiating reliable from unreliable sources[9] .These systems are also likely to generate non-existent references, which poses a major problem and it can sometimes be difficult to detect when an AI is producing misleading or incorrect data[10.11].

In addition, ChatGPT may provide incorrect answers and tend to repeat formulations from previous interactions, It may also be overly sensitive to variations in the way questions are asked or structured, and have difficulty interpreting ambiguous instructions [12] , Serious medical errors can occur if patient queries are misinterpreted or incorrect diagnoses are generated[13] .

Ultimately, although intelligence can artificially generate attractive texts, it remains limited in its ability to reason and develop complex arguments like humans, a skill that is essential in medicine, where decisions require not only data analysis, but also consideration of clinical and ethical aspects. AI, despite its efficiency in processing information, cannot replace the critical and nuanced thinking required for decision-making in medical care [14] .

This was indeed the case with our patient, who was a victim of AI misuse .

So it's important to note that ChatGPT is not a substitute for the doctor, and answers must always be confirmed by a professional.

Conclusion:

ChatGPT, and AI in general, have the potential to transform the medical field by offering solutions that improve access to information and facilitate training. However,

it is essential that these technologies are used responsibly, with appropriate controls, to ensure safe and effective care.

ChatGPT's role will not be to replace healthcare professionals, but rather to support them in their daily missions, making care more accessible and effective for patients.

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