

Iatrogenesis in the Rheumatological practice

Summary

Introduction: Iatrogenesis is one of the most serious threats to patients with rheumatic diseases, with high morbidity and mortality rates. In contrast to its importance, the published articles relating to the medical practice are scarce, especially in rheumatology. Currently, iatrogenesis is defined as any intervention performed by a health team, rightfully or wrongfully, justified or not, that results in damage to the health of the patient.

Contents: We described the main types of iatrogenesis in the rheumatology practice and discussed the various events that can be characterized as iatrogenic: glucocorticoid-induced osteonecrosis, drug-induced lupus-like syndromes, cutaneous drug reactions, side effects of drugs used for the remission of rheumatic diseases and others.

Discussion: Patients with rheumatic diseases are more likely to present adverse events due to the older age, the chronic nature of the disease and the presence of several comorbidities. The rheumatology professional plays an important role in the prevention and reduction of iatrogenic morbidity and mortality. The proper professional attitude, characterized by loyalty, transparency, integrity and honesty is essential for the maintenance of an adequate doctor-patient relationship.

Keywords: iatrogenic disease, rheumatology, bioethics, medical care

Volume 15 Issue 5 - 2023

Jose Marques Filho

Medical School Unisaesiano Araçatuba, Brazil

Correspondence: Jose Marques Filho, Rheumatology, Medical School Unisaesiano Araçatuba SP Brazil, Email reumamarques7@gmail.com

Received: August 12, 2023 | **Published:** September 04, 2023

Introduction

The scientific and technological advances achieved in recent decades have contributed to a better control of diseases, to improving quality of life, and especially to increasing people's lifespan. The process of socialization of medicine has contributed to more people having access to new diagnostic and therapeutic procedures. On the other hand, the increase in medical courses and the number of vacancies in the existing schools has led to distortions in the technical and humanistic education of new professionals. These facts have created a favorable scenario for the emergence and rapid growth of so-called iatrogenic diseases. The term iatrogenesis comes from the Greek *iatrós*, which means physician, and *genia*, which means generating.

Barr¹ in 1956 was the first author to alert the medical community, saying that, despite the great benefits to man, modern therapy brought the emergence of new diseases – the iatrogenic diseases.

The first author to define this new type of health issue was Mozer:²

“Any disease resulting from a diagnostic or therapeutic procedure.”

Currently the definition of iatrogenesis is much broader:

“Iatrogenesis is defined as any intervention performed by a health team, rightfully or wrongfully, justified or not, resulting in damage to the health of the patient”.³ In reality, however, the term has been used to indicate any health problem related to the medical procedures performed on a patient, both for diagnostic and therapeutic purposes.

The concept of restrictively associating iatrogenesis to medical poor or malpractice is inappropriate. Literature shows that the incidence of drug reactions varies from 4% to 17% of hospital admissions⁴ and, according to Melmon⁵ in a study conducted in the 1970s, the annual number of accidents with medical procedures in the U.S. was close the number of automobile accidents. It is indeed ironic that the physician, whose target is the human health, can harm the patient being responsible for the symptoms caused by his own actions. In contrast to the importance and impact of iatrogenesis in the

medical practice, articles published on the subject are still rare⁶ and in rheumatology, very rare.⁷

The iatrogenesis is one of the most serious threats to patients with a scary mortality rate. Brandão⁸ says that iatrogenic events occur in all medical specialties, including imaging. Therefore, a broad discussion on the topic is necessary, particularly with an ethical evaluation of professional practice. Although iatrogenic events are more frequent in intensive care,⁹ geriatrics¹⁰ and cardiology,¹¹ patients with rheumatic diseases have a great potential for adverse events due to the severity of some diseases, the older age, the chronic nature of the disease and the presence of several comorbidities.

Another important factor for the high rate of iatrogenesis in rheumatology is the shortage of highly specific laboratory testing. In most diseases, the diagnosis is based on clinical and laboratory criteria and on the careful clinical evaluation of the patient. However, a skilled and careful clinical evaluation can only be performed by professionals with adequate training in the area.

Wise et al.¹² emphasize the iatrogenic potential of rheumatology guidelines when used by physicians responsible for patient's basic care. Junior Teixeira et al.¹³ recently published a study in patients with multibacillary leprosy, showing that 16% met the diagnostic criteria of the American College of Rheumatology for systemic lupus erythematosus.

In fact, every diagnostic or therapeutic situation always has an iatrogenic potential, regardless of the technical capacity of the attending professional, being the doctor-patient relationship itself a source of iatrogenesis.³

Iatrogenic events

Iatrogenesis by omission, also called negative iatrogenesis, is defined by the lack of action that would be mandatory and necessary otherwise. Positive iatrogenesis is characterized when the medical procedure is followed by damage to the patient. It can also be classified as somatic - an organ or system of the body is specifically damaged - and psychological - with implications of emotional nature.

The somatic can relatively often lead to ethical and judicial disputes, especially those related to practices characterized as malpractice, negligence and recklessness. A study conducted at the Regional Council of Medicine of São Paulo¹⁴ clearly demonstrated a direct relationship between convicted and punished obstetricians/gynecologists with inadequate basic training in undergraduate and graduate courses.

There are no confirmatory studies in rheumatology, but there is indication that somatic and psychological iatrogenesis with objective and subjective harm to patients with rheumatic diseases are much more frequent among general practitioners than specialists.^{15,16}

Psychological iatrogenesis is more subtle and is possibly even more frequent and important than the somatic iatrogenesis. However, they are less noticed by both doctor and patient.

The doctor-patient relationship itself has an enormous iatrogenic potential, generally related to phenomena of regression, transference and countertransference.^{3,17}

Iatrogenesis in Rheumatology

In Brazil, the first publications on iatrogenesis in rheumatology are dated to the 1980s. Marques Filho¹⁵ reports in a letter to the editor the high frequency of inadequate diagnosis of rheumatic fever. The misdiagnosis of rheumatic fever has also been studied by Atra and Feldman,¹⁶ who confirmed only 18 cases of rheumatic fever in 126 children sent to the outpatient clinic of the rheumatology service with this diagnosis. These are typical examples of incompetence and malpractice.

Unfortunately, such misconduct is rarely evaluated and punished in ethical or judicial disputes. On the other hand, there are numerous publications showing the occurrence of iatrogenic events that can be classified as accidental and do not imply poor medical practice.⁵

Examples of this situation would be the drug-induced rheumatic manifestations,^{6,18,19} steroid-induced osteonecrosis,²⁰ drug-induced lupus-like syndromes,^{21,22} cutaneous drug reactions,²³ side effects of drugs used in rheumatic diseases²⁴ and steroid-induced osteoporosis.²⁵

In regard to cutaneous drug reactions and drug reactions in hospitalized patients, a meta-analysis²⁶ demonstrated a 6.7% incidence of severe reactions defined as those requiring hospitalization or associated with deaths. Noteworthy are the NSAIDs as one of the drug types that most often cause cutaneous drug reactions.²³ In recent decades, the trend to initiate more aggressive therapy in early rheumatoid arthritis, especially with the use of combination therapies, has increased the incidence and severity of side effects and infectious complications.²⁴ The relationship between the use of biological agents and the increased incidence of opportunistic infections in patients with rheumatoid arthritis has been well established.²⁷

Listen et al.²⁸ demonstrated that the incidence of adverse effects is 3.3 to 4.1 times higher in rheumatoid arthritis patients treated with biological agents than in those receiving the conventional treatment, while the incidence of infection is 2.7 to 2.8 higher in the group treated with biological agents. Coutinho et al.²⁹ described a case of rupture of the Achilles tendon due to the use of fluoroquinolone. Psychological iatrogenesis is frequent in the rheumatology practice. The very characteristics of rheumatic diseases - chronicity, limitations, disability and chronic pain - favor the phenomena known as transference and countertransference.^{3,17}

Transference is the process by which feelings and conflicts originated in relationships with important people in early life are

brought into the clinical relationship. This phenomenon can result in an irrational and intense relationship, which cannot be understood based on real phenomena. The patient feels vulnerable, helpless and powerless.

Typical examples of this situation are patients who become overly dependent on the doctor.

In some cases, the so-called negative transference, with feelings of mistrust, envy, contempt and irritation can also occur. In these cases, insufficient information and poor collaboration with the treatment may occur. Countertransference refers to physician's emotional movements as a reaction to those from the patients and in relation to their own childhood experiences.

When negative, it can be manifested by attitudes that hide unconscious rejection, as for example: refusal to listen to the patient by haste or lack of time, slips as forgetting the appointment schedule, "threat" of hospitalization and other acts that may damage the clinical relationship. The perception of these aspects of doctor-patient relationship can have a huge importance in the prevention and detection of psychological iatrogenesis, improving the rheumatologic patient care.

Discussion

Although the principle "*primum non nocere*" is one of the most important pillars of medical ethics since the Hippocratic times, physicians are responsible for unintentionally causing damage to their patients. In the medical area the publication of reports of therapeutic success, difficult diagnostic cases, rare cases and dissemination of new diagnostic and therapeutic methods of a particular institution are frequent. However, as stated by Leal et al.,⁷ reflection, discussion and publication of failures and damage caused to patients are essential for the good medical practice.

The professional who practices Rheumatology plays an important role in the prevention and reduction of iatrogenic morbidity and mortality. It is imperative to be constantly vigilant in the daily practice. For that purpose, it is always necessary to evaluate the possibility that certain symptoms or new clinical manifestation in a patient under their care are a consequence of side effects of recently introduced drugs or of continued use. In addition, a careful risk/benefit assessment of any diagnostic or therapeutic procedure should become a daily routine for the professional.

The professional maturity and the physician's experience are important factors to deal with situations that can be quite embarrassing. Although important, it is not easy to admit to mistakes or accidents, especially if they are severe or cause significant damage. The literature in the field of bioethics demonstrates the fundamental importance of the doctor declaring errors or accidents to the patient in order to preserve the trust and loyalty in the doctor-patient relationship.

Hebert et al.³⁰ emphasize ethical and legal aspects by which physicians must declare honestly the error or accident to the patient and his family. They even proposed guidelines for this practice in the medical routine, emphasizing the bioethical dimension of this procedure. The informed consent for diagnostic and therapeutic practices given by the patient is an ethical imperative and a demonstration of respect for the bioethical reference of patient's autonomy.

This consent must be built on a solid doctor-patient relationship, trying to reach what is now called "shared decision",³¹ in which the physician and the patient assume their due responsibilities for the

choices in a setting of mutual trust. We are in the communication era. The physician's verbal and nonverbal expressions cause a profound impact on the patient.

The therapeutic power of the doctor-patient relationship is undeniable, but like all drugs, it can have serious adverse effects. In appropriate expressions such as "the disease has no cure", "there is nothing more we can do", "your problem has no solution" can cause a profound emotional impact on the patient, generating what one might call verbal iatrogenesis. The adequate professional attitude facing the damage to the patient's health caused by the physician is essential to maintaining the doctor-patient relationship.

The physician's behavior must be characterized in these moments by loyalty, transparency, integrity and honesty to his patient.

It is essential that all information and explanations are given to the patient and family, with clear and firm answers regarding the questions raised. In doing so, the professional will be fulfilling his primary function, which is taking care of human beings, in all its dimensions and at all times.

Acknowledgments

None.

Conflicts of interest

The authors declare no conflicts of interest.

References

- Barr DP. Hazards of modern diagnosis and therapy – the price we pay. *JAMA*. 1956;159(15):1452–1556.
- Mozer RH. Disease of medical progress. *N Engl J Med*. 1956;255:606–614.
- Schmidt E, Valle DA, Martins JSC, et al. Iatrogenesis as an implication of patient-physician relationship: [review]. *Rev Bras Clin Med*. 2011;9(2):146–149.
- Bates DW, Cullen DJ, Laird N, et al. Incidence of adverse drug events and potential adverse drug events: implications for prevention. *JAMA*. 1995;274(1):29–34.
- Melmon KL. Preventable drug reaction cause and cures. *Semin Begy Israel*. 1971;284:361–367.
- Freitas GG, Pessoa AL. Iatrogênese em Reumatologia. *Rev Bras Reumatol*. 1984;24:194–198.
- Leal E, Brito MG, Gouveia C, et al. Iatrogeny in paediatrics: reconsider attitudes. *Acta Med Port*. 2011;24(2):375–378.
- Brandão P. Ética, erro e iatrogenia. *Acta Radiol Port*. 2007;19:65–67.
- Rubin HA, Moskowitz MA. Complications of care in a medical intensive care unit. *Ann Intern Med*. 1990;5:104–109.
- Szlejfc C, Farfel JM, Saporetti LA, et al. Factors related to the occurrence of iatrogenesis in elderly patients hospitalized in a geriatric ward: a prospective study. *Einstein (São Paulo)*. 2008;6(3):337–342.
- Pereira AC, Franken RA, Sprovieri SRS, et al. Iatrogeny in cardiology. *Arq Bras Cardiol*. 2000;75(1):75–78.
- Wise EM, O'Brien T, Dickson DJ. Guidelines causing iatrogenic disease? *Rheumatology (Oxford)*. 2007;46(4):723.
- Teixeira Junior GJA, Silva CEF, Magalhães V. Application of the diagnostic criteria for systemic lupus erythematosus to patients with multibacillary leprosy. *Rev Soc Bras Trop*. 2011;44(1):85–90.
- Gomes A. Comparative analysis between the profile of the doctor denounced for ethical-professional infractions in the Regional Council of Medicine of the State of São Paulo and teaching. São Paulo, 2010. (Tese de Doutorado apresentado a Faculdade de Medicina da Universidade de São Paulo).
- Marques Filho J. A iatrogenia em reumatologia. *Rev Paul Med*. 1984;102:40.
- Atra E, Feldman D. Diagnosis errors of rheumatic fever. *Rev Bras Reumatol*. 1987;27(5):167–174.
- Nogueira–Martins LA, Nogueira–Martins MFC. The current medical practice and the physician-patient relationship. *Rev Bras Clin Ter*. 1998;24(2):59–64.
- Harima HA, Atra E, Cunha MF, et al. Drug-induced rheumatic manifestations: personal experience and literature. *Rev Bras Reumatol*. 1990;30:13–19.
- Bruns A, Goldenberg J. Iatrogenic drug-induced arthropathy. *Einstein (São Paulo)*. 2008;6(supl):S128–S132.
- Sella EMC, Carvalho MRP, Sato EE. Osteonecrosis in Systemic Lupus Erythematosus Patients. *Rev Bras Reumatol*. 2005;45(1):1–8.
- Hess E. Drug–related lúpus. *N Eng J Med*. 1988;18(22):1460–1462.
- Pascoalino D, Namora dos Santos J, et al. Lúpus induzido por drogas. *Acta Med Port*. 2003;16:295–300.
- Bigby M, Jick S, Jick H, et al. Drug–induced cutaneous reaction: a report from Boston Collaborative Drug Surveillance Program on 15,458 consecutive inpatients, 1975 to 1982. *JAMA*. 1986;256(24):3358–3363.
- Katchamart W, Trudeau J, Phumethu V, et al. Efficacy and toxicity of methotrexate (MTX) monotherapy versus MTX combination therapy with non–biological disease–modifying antirheumatic drugs in rheumatoid arthritis: a systemic review and meta–analysis. *Ann Rheum Dis*. 2009;68(7):1105–1112.
- Godinho F, Santos MJP, Silva JC. Osteoporose induzida pelos glicocorticóides: conhecimento e estratégias preventivas nos doentes com lúpus. *Acta Reum Port*. 2004;29:85–87.
- Lazarou J, Pomeranz BH, Corcy PN. Incidence of adverse drug reactions in hospitalized patients: a meta–analysis of prospective studies. *JAMA*. 1998;279(15):1200–1205.
- Filer SG, Yeanan MR, Sheppard DC. Tumor necrosis factor inhibition and invasive fungal infection. *Clin Infect Dis*. 2005;41 Suppl 3:208–212.
- Listing J, Strangfeld A, Kary S. Infections in patients with rheumatoid arthritis treated with biologic agents. *Arthritis Rheum*. 2005;52(11):3403–3412.
- Coutinho M, boteanu A, Rodrigues A, et al. Rupture of the Achilles tendon of iatrogenic cause: the contribution of echocardiography to the establishment of the diagnosis. *Acta Reum Port*. 2011;36(sup):72.
- Hebert PC, Levin AV, Robertson G. Bioethics for clinicians: 23. Disclosure for medical error. *Can Med Ass J*. 2001;164(4):509–513.
- Godolphin W. Shared decision–making. *Healthcare Quartely*. 2009;12:186–190.