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The "Mad Protocol Syndrome." 4. Osteoporosis and Vitamin D Deficiency: The epidemic of overdiagnosis and overtreatment

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Abstract

The "Mad Protocol Syndrome" is a condition in physicians who rigidly or normatively apply clinical guidelines or protocols. This syndrome, understudied but widespread, is seriously dangerous because it generates iatrogenic effects, promotes polypharmacy and drug interactions, is frequently based on controversial, unsound, and rapidly changing foundations due to the rapid emergence of new studies, fails to consider patient-centered care, is not developed collaboratively by medical specialties and patients, is often influenced by powerful interest groups (such as the relationship of almost all panelists on clinical guideline development committees with the pharmaceutical industry), always maintains an exclusively biomedical perspective ignoring broader biopsychosocial viewpoints, and because there are hundreds or thousands (or perhaps millions?) of clinical guidelines that contradict each other in their recommendations. The patient is a biographical, social, and spiritual reality, never an isolated analytical value. No laboratory target (HbA1c, LDL, or blood pressure) justifies destroying a human being's autonomy, lucidity, or daily well-being. "The Mad Protocol Syndrome" ultimately represents the dehumanization of medicine through bureaucracy. To break this absurd cycle of over-prescription and alienation, 21st-century medicine doesn't need to generate more guidelines from distant experts, but rather urgently reclaim the sovereignty of clinical judgment, safe deprescribing tools, and critical methodological approaches that return control to the primary care physician and dignity to the patient. Studying and reflecting on these concepts is the first step toward transforming clinical practice and rescuing the humane, critical, and sensitive medicine that patients so desperately need. Below is an example of clinical guidelines and protocols for osteoporosis, osteopenia and Vitamin D deficiency.

Keywords: Guidelines; Methodology; Applicability, Evidence-based medicine; Patient-centered; Personalized medicine, General practice

Introduction

Clinical practice guidelines provide evidence-based recommendations to optimize patient care, while protocols dictate rigid, step-by-step procedures. In general medicine, these tools are designed to reduce practice variation and translate complex scientific research into actionable, patient-specific encounters (1, 2). However, clinical guidelines

face significant systemic challenges. Key problems include a one-size-fits-all approach that fails to account for individual variations, a lack of universal applicability, and potential conflicts of interest. Misuse of guidelines can sometimes lead to suboptimal care (3-5).

The concept we describe as the “Mad Protocol Syndrome” perfectly defines the phenomenon of the tyranny of clinical guidelines or normative biomedical reductionism.

This refers to the growing concern that modern medicine focuses too rigidly on treating isolated biological pathways and rigid, one-size-fits-all algorithms. This severely limits personalized care and ignores the complex, multifaceted realities of human illness (6).

In the scientific and critical medical literature, promoted by movements such as Choosing Wisely, evidence-based medicine without conflicts of interest, and quaternary prevention (7-10), there are blatant examples of guidelines that exhibit these characteristics: medicalization of risk factors, rigid objectives that induce massive polypharmacy in patients with multiple pathologies, a high rate of panelists with conflicts of interest with the pharmaceutical industry, and a complete disconnection from the biopsychosocial model. Below is an example of clinical guidelines and protocols for osteoporosis, osteopenia and Vitamin D deficiency.

CLINICAL CASE: The "Mad Protocol Syndrome" applied to osteoporosis, osteopenia and Vitamin D deficiency (Overtreatment)

Ellen, 68 years old. Menopause at age 51, active lifestyle (practices yoga and walks). No history of previous fractures or corticosteroid use. Her mother died at age 89 without hip fractures. Social situation: Retired, fully independent, excellent physical and nutritional condition.

The "Mad Protocol" Approach (Automated Bone Densitometry)

Ellen attends a routine gynecological health check-up. Following a widespread opportunistic screening protocol (but not universally supported by evidence in women without additional risk factors), a bone densitometry scan (DEXA) is requested. The result shows a T-score of -2.6 in the lumbar spine and -2.1 in the femoral neck (11, 12).

The classic protocol rigidly labels any T-score below -2.5 as "Osteoporosis," without calculating the patient's absolute fracture risk (using tools such as the FRAX index). The doctor, strictly adhering to the clinical guidelines, decides that Ellen should receive immediate and long-term pharmacological treatment. She is started on Alendronate 70 mg (an oral bisphosphonate) once a week, along with calcium and vitamin D supplements (13, 14).

Years pass. Ellen completes 5, 6, and then 7 years of continuous treatment with the drug. Although her bone density scans stabilize, the doctor does not consider a "therapeutic vacation" (temporary discontinuation of the drug after 5 years to prevent bone remodeling from freezing), as the computerized protocol continues to flag the diagnosis as critical. At age 75, after 7 years of continuous bisphosphonate treatment, Ellen begins to experience a dull, unexplained pain in the anterior aspect of her right thigh when walking. The doctor attributed the pain to her osteoarthritis and prescribed painkillers, urging her to continue taking alendronate to "protect her bones." One afternoon, while Ellen was simply walking down the hallway of her home, she felt a sharp crack in her leg and immediately fell to the floor. Upon being taken to the hospital, X-rays confirmed the worst-case scenario of iatrogenic harm: an atypical femur fracture (a transverse, non-comminuted fracture along the shaft of the femur, caused by the chronic and excessive suppression of bone remodeling resulting from long-term bisphosphonate use). Because the drug had "froze" her

cellular repair mechanisms, the bone had become severely rigid and brittle, fracturing under minimal mechanical stress (without any prior trauma).

DISCUSSION

This clinical case exemplifies how mass, indiscriminate screening transforms an age-related physiological process of bone density loss into a severely overtreated pathology. It also shows how the rigidity of the protocol can paradoxically end up causing the very catastrophic injury it was intended to prevent: a bone fracture.

In Ellen's case, the doctor suffers from the "Mad Protocol Syndrome." Clinical guidelines on bone metabolism (15) establish excessively high thresholds for normal Vitamin D levels (setting the cutoff at >30 ng/mL instead of >20 ng/mL or 12 ng/mL) and recommend mass screening with bone densitometry (DEXA) in very low-risk populations. By arbitrarily labeling a large portion of the healthy population as "deficient," the chronic prescription of vitamin D and calcium supplements, and subsequently bisphosphonates, skyrockets. This exposes patients to serious side effects (osteonecrosis of the jaw, atypical femur fractures, or vascular calcifications). These rigid protocols lead to iatrogenic harm by reversing the benefit: Bisphosphonates are effective drugs in the short term (3-5 years) in very high-risk patients. However, their indefinite use due to a rigid fear of a "bone density scan number" destroys normal bone physiology (which needs to break down old bone to create new, elastic bone), leading to spontaneous fractures (16).

Osteoporosis awareness campaigns and the committees that draft therapeutic thresholds have historically been funded by the pharmaceutical industry and bone density scanner manufacturers, promoting universal screening in healthy women instead of focusing on fall prevention. Critical organizations have repeatedly denounced the fact that the expert committees that draft these guidelines receive direct funding from pharmaceutical companies that market vitamin supplements, osteoporosis treatments, and diagnostic testing laboratories (17-19).

The scientific basis is weak and constantly changing: Subsequent large-scale clinical trials (such as the VITAL study) demonstrated that widespread vitamin D and calcium supplementation in people without pre-existing serious conditions does not reduce the risk of fractures or provide real clinical benefits, undermining the robustness of previous rigid protocols (20-23). The T-score threshold of -2.5 was defined by the WHO in the 1990s using the bone mass of young women (aged 20 to 29) as a reference. Labeling a woman of almost 70 as "ill" by comparing her to a 20-year-old is a huge conceptual bias that encourages widespread overtreatment.

What would a Patient-Centered Intervention Plan look like?

If the practitioner had practiced sensible medicine, free from the "Mad Protocol Syndrome": 1) instead of treating an isolated laboratory value, they would have entered Ellen's data into the FRAX scale. They would have discovered that her absolute risk of a major fracture over 10 years was very low (e.g., <10%), because she doesn't smoke, doesn't take corticosteroids, and has good agility (24); 2) Alendronate would have been avoided. They would have recommended that she continue her active lifestyle, enhance her strength/balance exercises (to prevent falls, which are the true cause of fractures), and ensure optimal dietary calcium intake and sun exposure. In this way, Ellen would have reached 75 years of age with physiologically mature, elastic bones and without suffering a catastrophic and disabling fracture caused by the medication itself.

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