COMMENTARY ON “ADVERSE EVENTS OF ANTIPSYCHOTICS AND CYTOCHROME POLYMORPHISMS: A CASE SERIES ON 31 PATIENTS”

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With interest I read the article by G. Maina et al, reporting the results of a population of psychiatric patients underwent to Neuropharmagen® test (Maina et al. 2021). The authors detail the results obtained and underline that the use of the test, thanks to a deeper genetic evaluation, could have prevented the side effects related to psychiatric drugs in about 38.7% of cases. However, some issues have not been fully elucidated and I have the following comments and concerns.

Firstly, one of the main limitations of the study, which is related to the small sample size (n=31), is not correctly stated in the main text. This aspect become even more relevant considering that the percentage of patients for whom the test could have been useful in avoiding the side effects is largely higher than the ones available in literature (about 10-20%, Ingelman-Sundberg, 2004). Therefore, the data presented needed to be confirmed to avert mis-interpretations and errors for the clinicians worldwide.

Secondly, in the article has not been emphasized that, although the cost of genetic analyses has significantly decreased in recent years, they are still very expensive, and having sufficiently large case series that can fully represent the context of clinical use is still very difficult, especially with a single study. Furthermore, it must be specified that studies on the use of these tests in clinical practice must shed light on the real limits of the psychiatric field, both because it is quick to perform and because it is not at all invasive for the patient himself.

Overall, the study by Maina G. and colleagues shows promising data about the utility of a pharmacogenetic test in guiding clinicians to improve the safety and, possibly, the effectiveness of the psychiatric therapies in the real-world setting. However, several limitations such as the small sample size, the nature of the work “prospective” and not “retrospective” as stated, the absence of a control group and the not routinary use of this pharmacogenetic test for its high costs, added to the lack of clear indications for the use of this test in the clinical practice, should be taken into account. Indeed, the value of this tool would be more meaningful if assessed in the context of a randomized clinical trial with an adequate sample size rather than the presented non-evidenced based speculations.

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References

HIGH and increasing prevalence of mental problems and disorders and their striking socioeconomic burden associated with inadequate current treatment have been a substantial but frequently hidden proportion of the world’s disease burden (Australian Bureau of Statistics 2020-21).

The positive thing is that professional community speaks more and more about mental health – reflecting “our emotional, psychological and social well-being” (Fusar-Poli et al. 2020). This approach is evidently getting relevance and attention in comparison to the traditional one: mental illness – referring to “problem that affect a person’s thinking, feeling, mood, or behavior” (Wren-Lewis, Alexandrova 2021).

We should continue to shift the focus from „what is wrong” to „what is desirable”. We have to make a step forward from exclusive detailed analysis of problem and pay attention to characteristics of the mental state that we tend to accept as a „mental health”.

Further population of this concept and general improvement of mental health within community will require adjustments of traditional role of different specialist dealing with mental health. Among them, we as a general practitioners (GPs) already play a central role in providing it.

This journal – dedicates one issue yearly solely to public mental health, physical health and quality of life. Adequate training is priority as well. By doing that GPs will be able to participate even more in work-up of patients experiencing mental illness. Possible solution through case manager nurse has been proposed – something similar is getting attention during last few years in Slovenia – nurses focused on cardiovascular disease. Obviously this should be researched into much more details in the future.

Furthermore, we know that patients with severe mental illness still have a 10–20-year life expectancy gap when compared with the general population; this gap is largely due to physical chronic disease, particularly cardiovascular and respiratory disease (Plana-Ripoll et al. 2020). People with severe mental illness are 2–3 times more likely to have cardiovascular disease, respiratory illness, diabetes and osteoporosis, with up to 67% having metabolic syndrome (Fiorillo et al. 2019). In addition, the metabolic side effects of medication are frequent and mental illness is associated with potentially modifiable risk factors such as high rates of comorbid substance use, poor diet and physical inactivity, all of which contribute to poor physical health outcomes in this population. Lifestyle interventions, such as nutrition, movement, sleep, stress management and substance cessation, are efficacious and cost-effective therapies that improve mental health, physical health and quality of life. Among all other specialists, GPs play an central role in providing effective lifestyle coaching aimed to reduce the risk (Plana-Ripoll et al. 2020).

Coaching the patient towards desirable nutrition, physical activity and other life-style habits is among the key priorities for GP and should be considered as a priority for the integral health care system and patients with mental health problems particularly. GPs should be encouraged to involve into this kind of interventions with their patients.

There are numerous challenges in providing this service. Time constraints together with adequate training has been broadly recognized and maximal efforts should be paid in organizing the health care to assure as much time as possible for each GP to spend time with the patient instead of other non-medical obligations. Adequate training is priority as well.

References
DEPRESSION AND CORONARY ARTERY DISEASE

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In their prospective study, Rosic et al. (2020) evaluated anxiety, depression, and quality of life in 170 patients that underwent ambulatory cardiac rehabilitation (ACR) after major cardiac events, elective revascularization, valve replacement, or cardiac implantable electronic devises. They reported that after a median ACR duration of 12 weeks, it was noted decrease of both anxiety and depression, and improvement of most components of quality of life. The duration of ACR was correlated with the degree of anxiety and depression improvement. The authors concluded that a 3-month ACR after major cardiac events resulted in significant improvement of depression, anxiety and quality of life in most patients.

In our previous study (Fotopoulos et al, 2020), we described overall relative findings with the study by Rosic et al (2020). Specifically, we investigated the existence of depression and anxiety in 80 patients (59 men and 21 women) who were subjected to myocardial perfusion imaging single photon emission tomography (MPI SPECT), either for minor cardiac complaints, or for follow up of known myocardial and coronary artery disease (CAD) (Fotopoulos et al. 2020, Gianopoulos et al. 2017). MPI SPECT consists of an accurate non-invasive imaging method for evaluation of the myocardial status in patients with various diseases (Kotsalou et al. 2007). Cardiac risk factors (obesity, smoking, arterial hypertension, diabetes mellitus, dyslipidemia, and cardiac heredity) were also studied (Fotopoulos et al. 2020). MPI was performed in all patients with 1day stress/rest protocol according to guidelines and evaluated visually using a 17-segment polar map as previously reported (Gianopoulos et al. 2017). We found that both anxiety and depression were possible contributing risk factors for myocardial dysfunction. Additionally, when obesity or cardiac heredity coexisted with depression, the risk for CAD and myocardial dysfunction was higher in both sexes (Fotopoulos et al. 2020).

Other investigators have also found that depression and anxiety frequently occur in patients with CAD and significantly affect their health-related quality of life. In addition, previous studies reported that the depression and anxiety were worse in women compared to men (Lu et al. 2019). Furthermore, genetic predisposition to major depression may increase the risk for CAD and myocardial infarction (Lu et al. 2021). It has been suggested that patients with CAD and depression demonstrated increased response to stress in parietal cortex and decreased in anterior cingulate/medial prefrontal cortex in comparison to patients with CAD without depression (Bremner et al. 2019). In any event, ACR as it is reported in the current study by Rosic et al. (2020), may not only effectively reduce depression, anxiety and improve the quality of life, but it also may decrease the severity of myocardial dysfunction.

References

Letter to the Editor
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