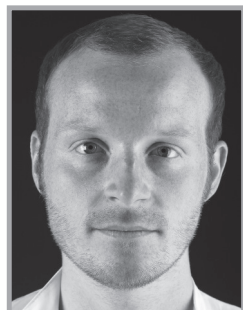


# Importance of increasing the awareness of psychiatric consequences among caregivers in a cardiology setting



Emil L Fosbøl\*

“Caregivers in cardiology departments are busy with a rapid flow of patients, and identification of patients with depressive symptoms will not necessarily be prioritized in all patients and among all caregivers.”

On Sunday at 5.00 am, Mr Smith wakes up with excruciating chest pain. He wakes his wife who activates the emergency medical services. Mr Smith has a cardiac arrest in his home just before the ambulance arrives; Mrs Smith starts cardiopulmonary resuscitation and continues for 2 min until the ambulance crew arrives and cardioverts Mr Smith back to normal heart rhythm. He is unconscious and is intubated. He is then taken quickly to a nearby hospital where the diagnosis of a ST elevation myocardial infarction is made and he is transferred to a tertiary center for an acute angioplasty. Mr Smith is treated with an angioplasty and a coronary stent 95 min after symptom onset, but his heart has taken too much damage already and he dies the next day in the intensive care unit of the hospital. Mrs Smith leaves the hospital and goes home, alone to her house.

Acute somatic disease is defined as affecting the human body, distinct from the mind. In reality, somatic disease very often affects the mind, although indirectly,

and viewing an acute illness as a purely somatic process is outdated and should be replaced by a more nuanced and holistic view of human disease processes. Cardiology is a medical specialty dealing with highly prevalent, life-threatening acute diseases, which often have life-changing effects not only on the patient, but also on the people at the patient's side. Psychiatric consequences are common, often severe and range all the way from minor depressive symptoms to acute traumatic distress to suicide, yet caregivers in cardiology settings (especially in hospital departments) are not necessarily aware of the psychiatric risks and are generally not 'in tune' with identifying psychiatric symptoms and reacting to these.

### The patient

We know that approximately 20% of all patients with a myocardial infarction will become depressed [1], as well as approximately 25% of patients with heart failure [2,3]. A substantial proportion of these patients will have severe depression with

“...viewing an acute illness as a purely somatic process is outdated and should be replaced by a more nuanced and holistic view of human disease processes.”

\*Department of Cardiology, The Heart Centre, University Hospital of Copenhagen, Denmark; and Duke Clinical Research Institute, Durham, NC, USA; emil.fosbol@duke.edu

relevant risk of suicide. Studies have shown that initial depressive symptoms are already identifiable in the acute hospital setting, but also the subsequent depression risk increases substantially after discharge from hospital. In SADHART, results even suggested that cardiovascular, as well as psychiatric status, improved with antidepressant therapy after myocardial infarction [1]. A survival benefit was also hypothesized with antidepressant therapy in heart failure; however, the SADHART-CHF trial did not show improvements in either depressive symptoms or survival among patients with heart failure and depression [4]. Hence, depression is a prevalent concomitant condition in the major categories of heart disease and few studies have given guidance on how to treat this group of frail patients.

### The spouse

Many would argue that for an acute life-changing and abrupt disease such as a myocardial infarction, a certain degree of depression and psychiatric distress would be expected given the severity of the disease and the sudden dismal future prospects. Yet, what few caregivers contemplate is the parallel depression risk and psychiatric consequences among spouses and relatives of the patient. We know that bereavement is a significant process for the spouse, leading to an increased risk of psychiatric consequences [5]. Prior studies have documented that losing a loved one increases the spouse's risk of rare events such as death, myocardial infarction and suicide [6–10]. The bereavement literature is extensive in terms of psychiatric etiological theories; however, all prior quantitative bereavement studies are based on the fatal event of losing a spouse. However, bereavement may not be that simple. We recently challenged the assumptions that bereavement applies equally to all types of fatal events and that bereavement only comes into effect after fatal events [5].

We now know that an acute and unexpected event, such as an acute myocardial infarction, has more profound psychiatric consequences for the spouse than other fatal events [5]. The rate of antidepressant use goes up by a factor of six in the months after the event and continues to be increased by a factor of 2.5 at 1 year after the infarction. Spousal benzodiazepine use explodes just after the event (use is 47-times higher than just before the fatal myocardial infarction); admission rates for depression are higher; and,

finally, the suicide rate in the year after the event is significantly higher than the average rate for the general population, as well as for other non-myocardial infarction events [5]. No prior study has examined the differences between types of fatal events on the subsequent risk of psychiatric consequences. In addition, we now also know that spousal psychiatric consequences are to be expected not only after a fatal cardiac event, but also after a nonfatal cardiac event. The relative risk of depression after a nonfatal myocardial infarction is substantially lower than after a fatal event, but given the high prevalence of nonfatal myocardial infarctions worldwide, this finding has profound public health implications.

We do not know whether preventive systems can identify patients as well as relatives with an increased risk of adverse psychiatric consequences. We do not know whether a formal screening could reduce the downstream risk of depression, as well as being cost effective from a societal perspective. Currently, no randomized data exist for the prevention of adverse psychiatric consequences after a fatal spousal event; in fact, very little attention from caregivers is given to spousal bereavement.

### ■ Need for a preventive system

A recent study by my group [5], together with other studies, clearly shows that spouses (as well as the patients themselves) are in a psychologically vulnerable state in the setting of an acute event (e.g., myocardial infarction) [6–9]. Surprisingly, no current formal screening for depression among patients and spouses/relatives is performed during the acute hospital course. It is unknown whether such a screening would prevent future depression and suicide, but the data certainly suggest that a study could show benefit here. Caregivers in cardiology departments are busy with a rapid flow of patients, and identification of patients with depressive symptoms will not necessarily be prioritized in all patients and among all caregivers. We need a formalized screening system, but more importantly, we need to provide these patients with options. Given the current lack of randomized data, policy makers need to consider this problem and propose solutions. Transitions from tertiary centers to secondary centers and to home are crucial points in the continuum of care and could provide a natural platform for brief depression screening. This could be part of the discharge routine and should influence the decision regarding when the

“...what few caregivers contemplate is the parallel depression risk and psychiatric consequences among spouses and relatives of the patient.”

patient/spouse needs a follow-up with a physician. Offers for spouses – including counseling, general practitioner appointments and patient relative groups – vary immensely according to geography, disease state and personal initiative, and this is simply not good enough from a societal perspective given new data regarding the psychiatric consequences of an acute myocardial infarction.

Although we need formalized screening, my group's recent study also underlines that caregivers in cardiology departments at a minimum should be aware of the psychiatric consequences not only in their patients, but also in spouses [5]. An acute myocardial infarction is a life-altering

event with high risks of subsequent depression, anxiety and suicide – conditions and events that are potentially preventable if correctly identified in good time.

#### Financial & competing interests disclosure

*The author has no relevant affiliations or financial involvement with any organization or entity with a financial interest in or financial conflict with the subject matter or materials discussed in the manuscript. This includes employment, consultancies, honoraria, stock ownership or options, expert testimony, grants or patents received or pending, or royalties.*

*No writing assistance was utilized in the production of this manuscript.*

#### References

- 1 Glassman AH, O'Connor CM, Califf RM *et al.* Sertraline treatment of major depression in patients with acute MI or unstable angina. *JAMA* 288(6), 701–709 (2002).
- 2 Rutledge T, Reis VA, Linke SE, Greenberg BH, Mills PJ. Depression in heart failure a meta-analytic review of prevalence, intervention effects, and associations with clinical outcomes. *J. Am. Coll. Cardiol.* 48(8), 1527–1537 (2006).
- 3 Fosbol EL, Gislason GH, Poulsen HE *et al.* Prognosis in heart failure and the value of  $\beta$ -blockers are altered by the use of antidepressants and depend on the type of antidepressants used. *Circ. Heart Fail.* 2(6), 582–590 (2009).
- 4 O'Connor CM, Jiang W, Kuchibhatla M *et al.* Safety and efficacy of sertraline for depression in patients with heart failure: results of the SADHART-CHF (Sertraline Against Depression and Heart Disease in Chronic Heart Failure) trial. *J. Am. Coll. Cardiol.* 56(9), 692–699 (2010).
- 5 Fosbol EL, Peterson ED, Weeke P *et al.* Spousal depression, anxiety, and suicide after myocardial infarction. *Eur. Heart J.* doi:10.1093/eurheartj/ehs242 (2012) (Epub ahead of print).
- 6 Elwert F, Christakis NA. The effect of widowhood on mortality by the causes of death of both spouses. *Am. J. Public Health* 98(11), 2092–2098 (2008).
- 7 Luoma JB, Pearson JL. Suicide and marital status in the United States, 1991–1996: is widowhood a risk factor? *Am. J. Public Health* 92(9), 1518–1522 (2002).
- 8 Martikainen P, Valkonen T. Mortality after the death of a spouse: rates and causes of death in a large Finnish cohort. *Am. J. Public Health* 86(8), 1087–1093 (1996).
- 9 Mostofsky E, Maclure M, Sherwood JB, Tofler GH, Muller JE, Mittleman MA. Risk of acute myocardial infarction after the death of a significant person in one's life: the Determinants of Myocardial Infarction Onset Study. *Circulation* 125(3), 491–496 (2012).
- 10 Smith JC, Mercy JA, Conn JM. Marital status and the risk of suicide. *Am. J. Public Health* 78(1), 78–80 (1988).