Depression in congenital heart disease

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Aims

1. Prevalence of depression and psychological problems
2. Interaction to quality of life and exercise capacity
Depression: Centre for Epidemiologic Studies Depression Scale

- German translation: “Allgemeine Depressionskala” (ADS)
- self-reported symptoms associated with depression experienced in the past week.
- 20 items
- Depressed mood, feelings of guilt and worthlessness, feelings of helplessness and hopelessness, psychomotor retardation, loss of appetite, and sleep disturbance
- answers are transformed in values between 0 (good) – 60 (worst)
- Depression was defined as a ADS score higher than 23

Quality of life: MOS SF-36

- generic instrument to assess health related quality of life
- 36 items
- 8 subscales
  - physical components
  - mental components
  + health transition
- answers are transformed in values between 0 (worst) - 100 (best)

- physical functioning (10)
- role-physical (4)
- bodily pain (2)
- general health (5)

- vitality (4)
- social functioning (2)
- role-emotional (3)
- mental health (5)

- health transition (1)
Exercise capacity: Cardiopulmonary exercise test

- symptom limited to maximum exhaustion
- bicycle ergometer in sitting position
- exercise protocol:
  - 3 min. rest to define baseline
  - 3 min warm-up without load
  - ramp-wise increase of work rates

- ECG, SpO2 were measured continuously
- Ventilatory rate, volume, O2-uptake, CO2 elimination measured breath by breath
- RR was measured every 2 minutes

Cooper CB, Storer TW. Exercise testing and interpretation; a practical approach. 1st ed: Cambridge University Press; 2001.
Patients

CPET From November 2007 to October 2009
n=1684

Healthy controls (n=43)

< 14 years (n=315)

Follow-up test (n=368)

Language barrier (n=128)

mental retardation (n=33)

incomplete (n=30)

Patients included to the study
n= 767
Prevalence of depression

Patients reported less symptoms of depression than predicted. Only 66 (8.6%) exceed the cut-off point for depression. Patients reported less symptoms of depression than predicted.
Depression according to subgroups

No significant difference in-between diagnostic subgroups

Prevalence of depression in cyanotic was highest with 13.5%

p=0.195 (Kruskal-Wallis)
Exercise capacity according to subgroups

Degree of exercise intolerance was related to the severity of the underlying anatomical feature.
Correlation between exercise consumption and depression

$r=-0.164 \ p<0.0001$

Shifts in the psychological status are of weak influence on exercise capacity.

Psychological problem result not from the patients exercise ability.
Quality of life according to diagnostic subgroups

Quality of life was fairly good

Differences in between the groups especially in the physical domains

* p<0.05 (Kruskal-Wallis)
Impact of depression on quality of life

Physical functioning $r=-0.404$

Role physicaly $r=-0.301$

Bodily pain $r=-0.273$

General health $r=-0.520$

Vitality $r=-0.645$

Social functioning $r=-0.501$

Role emotional $r=-0.264$

Mental health $r=-0.740$

In all dimensions $p<0.0001$
„ADS score“ vs. „mental health score SF36“

Depression pictured in the „mental health“ dimension of the SF-36

$r = -0.740 \ p < 0.0001$
Conclusion

Patients with congenital heart disease are rarely depressive. However, even minor depressive symptoms have a stronger impact on quality of life than severely limited exercise capacity as seen in many patients.
Thank you very much for our attention

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