

EXERCISE MEDICINE MODEL CASE REPORTS

<i>GP</i>	<i>general practitioner</i>
<i>BP</i>	<i>blood pressure</i>
<i>sBP</i>	<i>systolic blood pressure</i>
<i>dBP</i>	<i>diastolic blood pressure</i>
<i>HR</i>	<i>heart rate</i>
<i>ECHO</i>	<i>echocardiography</i>
<i>EKGH</i>	<i>Holter EKG monitoring</i>
<i>LVH</i>	<i>left ventricle hypertrophy</i>
<i>ABPM</i>	<i>ambulatory blood pressure monitoring</i>
<i>PVC</i>	<i>premature ventricular contraction</i>
<i>AI</i>	<i>aortal insufficiency</i>
<i>AS</i>	<i>aortal stenosis</i>
<i>MI</i>	<i>myocardial infarction</i>
<i>CAD</i>	<i>coronary artery disease</i>
<i>CABG</i>	<i>coronary artery bypass grafting</i>
<i>PA</i>	<i>physical activity</i>

1

Mother is asking her GP if her son can do sports without any limitation. Boy is 14 y.o., 170 cm tall and his weight is 90 kg. He plays an ice hockey 3 times a week 2 hours + match on weekend. His father has antihypertensive medication since he was 33, all grandparents are treated for hypertension. BP values measured during preventive check-ups were 120/60..130/75..135/90. Today BP is 155/105, HR 70/min. No abnormalities during physical examination.

Question: Would you allow him practicing sports without any limitation or would you perform any examination?

2

Mother is asking her GP if her son can do sports without any limitation. Boy is 14 years old, 175 cm tall and his weight is 70 kg. He plays an ice hockey 5 times a week 2 hours + match on weekend. Family history without hypertension. Personal history without severe diseases. Today BP is 165/70, HR 98/min. No abnormalities during physical examination.

Question: Would you allow him practicing sports without limitation or would you perform any examination?

3

Mother wants GP to exempt her 12 y. daughter from PE because of arrhythmia and congenital heart defect. Girl is also practicing acrobatic rock'n roll 3 times a week, she is very good and she likes it much. But now she trembles of her safety during dancing.

There was noticed irregular heart action during preventive check-up and girl was sent to cardiologist. He performed EKGH - min. HR 62/min, max. HR 110. Girl was at home for all time of monitoring because nurse had told her not to break down the device. Many isolated monomorphic PVCs captured during monitoring. Insignificant AI recognized during ECHO. Cardiologist recommended no sports because of these findings.

Question: Can she perform PE and sports? Should be there any limitation? Would you perform any examination? What behavior would you recommend during EKGH?

4

18 y. old boy is complaining because of gynecomastia. He is competitive athlete (shot put). Family and personal history normal. During examination BP 150-160/95-110 repetitively.
Question: Do you have any suspicion? What examination would you perform?

5

33 y. old man is complaining because of chest pain during intense exercise. He plays squash once a week. His father died from MI when he was 40 and he had had first MI when he was 36. His grandfather (father of his father) died from ictus when he was 48, he had had MI when he was 42. Man smokes 20-30 cig. a day, no other abnormalities in his personal history. He is obese (BMI 34), his BP was 145-150/95-100 repetitively.

Question: What disease could it be when you consider his family history? What examination would you perform?

6

16 y. old boy suffered from 3 episodes of unconsciousness in last 6 months. Each collapse happened in hot weather when he was standing. Before 2 collapses he had felt palpitations. No witness noticed convulsions. Two collapses happened in overcrowded bus, once he collapsed in the morning during teeth brushing. In last year he grew up 15 cm, he is 185 cm tall and his weight is 60 kg. His mother often feels dizziness due to hypotension. Boy eats no breakfast at all, he drinks about 1 l of sweet drinks a day. Sometimes he feels dizzy when he suddenly stands up.

Question: What do you think about his problem, is it severe condition? What examination would you perform?

7

16 y. old boy suffered from 3 episodes of unconsciousness in last 6 months. Each collapse happened when he was standing. There were no relationship to weather or daytime, no witness noticed convulsions. In last year he grew up 5 cm, he is 180 cm tall and his weight is 75 kg. He eats regularly and drinks about 3 liters of water a day.

Question: What examination would you perform? Do you have any idea about diagnosis?

8

16 y. old boy suffered from 3 episodes of unconsciousness in last 6 months. Each collapse happened after intense PA. Once after 1500m competitive run, twice during football training. In last year he grew up 5 cm, he is 180 cm tall and his weight is 75 kg. He eats regularly and drinks about 3 liters of water a day. Before 2 collapses he had felt palpitations.

Question: What examination would you perform? Do you have any idea about diagnosis? Can he practice sports without any limitation?

9

18 y. old ice hockey player is coming for preventive check-up after mononucleosis. He was ill three months ago – fever, fatigue, tonsillitis, lymphadenopathy, elevation of liver enzymes levels. He has no problems nowadays and he wants to begin practicing without any limitation.

Question: Can he already practice without limitation? Would you perform any examination? What is the risk of intense training performed too early?

10

Mother is asking her GP if her son can do sports without limitation when he was diagnosed with type 1 diabetes. Until diagnosis boy had played football 4 times a week. Now he and his parents are afraid of complications during exercise.

Question: Can person with diabetes perform competitive sports? What risk would you expect?

11

19 y.o. man is asking his GP if he could participate in bicycle race. He is tracked by cardiologist for AS. He likes cycling and rides up to 2 hours a day. He never suffered from collapse, palpitation or chest pain.

Question: Can he participate in race? Would you perform any examination before you postulate your conclusion? What is the risk of intense exercise ?

12

53 y.o. man is complaining of uncomfortable feeling during intense exercise. When he reaches high intensity exercise in a short period of time (typically when he is running for bus), he feels like somebody strangling his neck. When he performs adequate warm-up period he has no problems – he is able to play tennis for 2 hours. His father is treated for CAD from he was 55 and underwent 3 x CABG. His grandfather (father of his father) suffered from several ictuses, first when he was 42.

Man is treated for dyslipidemia for 2 years, no more abnormalities in his personal history.

Question: Do you have any idea about diagnosis? What examination would you perform?

13

87 y. old man should undergo surgery for esophagus carcinoma but he is too old according chronological age. On the other side his biological age seems to be lower, man is relatively very physically active – he walks for several hours a day.

Question: Is there any functional variable that could improve prognosis after surgery? What examination would you perform?