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= Abstract =

Acute Myocardial Infarction after the Use of Sildenafil Citrate(Viagra)

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Erectile dysfunction(ED) is defined as the inability to achieve and/or maintain an erection which is sufficient for satisfactory sexual activity. Risk factors for ED include many of the same risk factors for cardiovascular disease: hypertension; lipid abnormalities, including low high-density lipoprotein cholesterol; diabetes; and smoking. Therefore, some patients with ED will have ischemic heart disease. Viagra , an oral therapy for ED, is the citrate salt of sildenafil, a selective inhibitor of cyclic guanosine monophosphate(cGMP)-specific phosphodiesterase 5(PDE5). The adverse effects of sildenafil include headache, flushing, dyspepsia, nasal congestion, visual disturbance, and cardiovascular complications. A general impression exists that cardiovascular complications of sildenafil occur mainly when the drug is taken concomitantly with nitrate. We report the case of a 52-year-old man who developed an acute myocardial infarction shortly after taking one tablet of sildenafil without sexual activity. The patient had not been using nitrates. Physicians treating patients with chest pain should be aware of the potential consequences of giving nitrates to patients taking sildenafil. We suggest that before initiating therapy, the history of sildenafil ingestion be obtained from patients with suspected myocardial infarction.

Key Words: Erectile dysfunction, Sildenafil citrate(Viagra), Acute myocardial infarction

: 2001 2 28

: 2001 5 25

: 896

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I.

8)

가 가 ,

,

1)

2)

40 70 52%가 가 가 가

6)

2)

가

가 , 가

()

II.

가 52 가

3,4)

2

2001 2

5 2

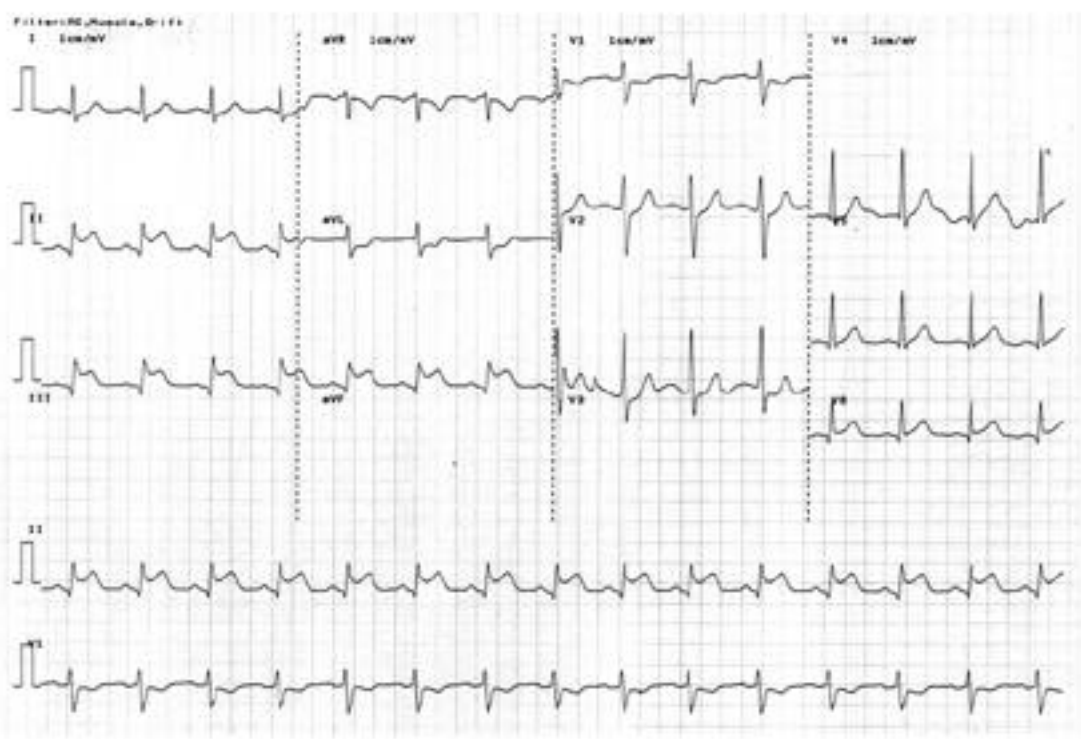
(Pfizer, 50

5-7)

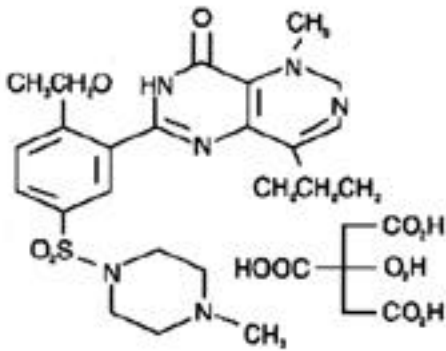
가6

mg) 1

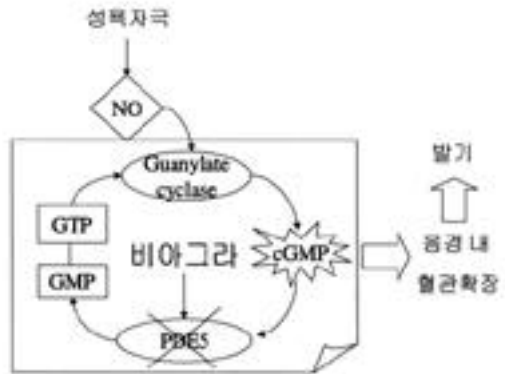
4



1.



2. ()



3. ()

NO: nitric oxide.
 GTP: guanosine triphosphate
 GMP: guanosine monophosphate
 cGMP: cyclic guanosine monophosphate
 PDE5=phosphodiesterase type 5.

100 mg 2 6

2000 9

93

15

1/3

2 mg 80
 units/kg(5000 units)
 1000 units/hr 가

2-D

(mid & basal inferior wall)

(basal septum)

140/100 mmHg, 90 / , 28 / ,
 36

150 units

70/40 mmHg

II, aVF 2 mm

300 cc

46

ST , III 3 mm ST /

5 mg

I, aVL, V1-V4 2 mm

30

ST (1).

90/70 mmHg, 82 /

CK 140 IU/L, CK-MB 1.96

가 150 units

ng/ml, Myoglobin 119.22 ng/ml, Troponin T

3 mg

, Troponin I 0.15 ng/ml

가

4 30 2

CK 1852 IU/L, Myoglobin 1000 ng/ml
, Troponin T , Troponin I 34.59 ng/ml
가 2

Nitric Oxide(NO)
11). NO
cGMP 가 ,

8 , 10

cGMP

11 2-D

PDE5 NO

가 1

NO가 ,
PDE5 cGMP

가

12-14(3).

11

Boolel PDE2, 3, 5

PDE5

III.

10). Waillis

PDE PDE5

7).

cytochrome P450(CYP)

3A4() cytochrome P450 2C9()

N-desmethylation

가 9).

cyclic guanosine monophosphate(cGMP)

Food and Drug Administration(FDA)

가 cGMP

1998 3

1998 11

6

가

15).

90

cGMP (PDE)

1999 8

28

()

가

가

4).

1999 10

2000 7

186

5).

cGMP-

5 (PDE5)

9,10).

80%

1-[[3-(6,7-dihydro 1-methyl -7-oxo-

8).

3-propyl-1H-pyrazolo[4,3-d]pyrimidin-5-yl)-4-

ethoxyphenyl]sulfonyl]-4- methylpiperazine

가

3).

citrate

2

9).

Conti

16)

FDA 1998 3 27 1998. 11

600 130 , , ,

가 2 , 3 , 77 ,

가 (41 ,

27 6 , 3) , , ,

48 15) .

64 (29 ~ 87

) , 16

2 128 44 (34%) 가

가 가

4 ~ 5 가 19) .

. 128 70

(70%) 가

(, , 8,18,21,22)

)

가 , 가

FDA NO

가 NO 가

13) ,

Canadian Adverse Drug Reaction Monitoring Programme(CADRMP)

(, ,

1999 3 가 1999 3

가

8 2000 3 31 48

6,15,20,23) Feenstra 30

88

가

가 17) 가

glyceryl trinitrate

8 , 8 , 7

24) .

. 28 4

(14 ~ 30%), (10 ~ 20%), (3 ~ 16%)

25) .

8,18-20)

가 가 .

American College of Cardiology American Heart Association

9) .

가
 가
 가
 가
 가

²⁶⁾ 65
 , CYP 3A4
)
 가

(intra-aortic
 balloon counterpulsation)

가

. Feenstra

가

가

²⁴⁾
 FDA

²⁷⁾ 2000 7 1

1

가

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