Case study

Vascular consideration with COVID-19 Vaccination: Clinical Case Report

Abstract :

Adverse cardiovascular side effects of the COVID -19 vaccine include myocarditis/pericarditis, vaccine induced thrmbotic thrmbocytopenie (VITT) and thrmboses, which often related to low platelet levels and VITT in the setting. A 60-year-old female presented to our Emergency Department (ED) after cardiopulmonary resuscitation due to Asytolie at home. The patient underwent a chest computed tomography (CT) scan that revealed bilateral pleural effusion without pulmonary embolism. Thje cardiovascular complications have been reported with both COVID-19 and its vaccination. The COVID-19 vaccines have adverse side effects, whic are rare but also sometimes fluminant too.

Keywords: cardiovascular side effects, COVID -19 vaccine, chest computed tomography, acute respiratory syndrone

Introduction:

Coronavirus disease 2019 (COVID-19), the illness caused by severe acute respiratory syndrone coronavirus 2 (SARS-CoV-2) continue to cause significant morbidity and mortality over the World[1,2] .

Globaly;numerous vaccines have been devloped against COVID-19. In Europe and United states, four vaccines have been approved by the FDA[3,4,5] .

The Majority of people become Moderna and Pfizer-BioNTech, Altough certainly side effect may occur, the benefit greatly outweigh the risks[6].

Adverse cardiovascular side effects of the COVID -19 vaccine include myocarditis/pericarditis, vaccine induced thrmbotic thrmbocytopenie (VITT) and thrmboses, which often related to low platelet levels and VITT in the setting[7,8].

Case report (history/examination):

A 60-year-old female presented to our Emergency Department (ED) after cardiopulmonary resuscitation due to Asytolie at home. She had been having progressive shortness of breath over 2-3 Months that worsened acutely on the admission day with no significant past medical history. She got the Covid vaccination 3 times.

On arrival to ED Patient was intubated. She was afebrile. An electrocardiogram was performed, which showed sinus rhythm with a left axis, normal intervals and negativ T wave over II,III,aVF and V1-4.

An arterial blood gas showed the following results: pH 6.7 (normal 7.35-7.45), pCO2 84 (normal 37-43 mmHg), bicarbonate 6.5 (normal 22-26 mmol/L), lactate 14 (normal 0.5-2.5 mmol/L), sodium 137 (normal 134-144 mmol/L), potassium 3.8 (normal: 3.5-5.5 mmol/L), and anion gap 21.9 mmol/L. There was an absence of ketones in the urinary dipstick, but positive for protein and glucose. Laboratory evaluation revealed markedly elevated creatinine level at 2.2 (normal: 0.7-1.1 mg/dl) and hs-TNI at2480 ng/l (normal: 2.3-11.6 ng/l).

Taku Tsubo Cardiomyopathie was ruled out with Cardrio-MRT and Ventricelography.

The patient underwent a chest computed tomography (CT) scan that revealed bilateral pleural effusion without pulmonary embolism. Coronary angiogramm was without a significant epicardial coronary artery disease. For further evaluation we measured the microcirculatory resistance (IMR=52) and coronary flow reverse (CFR =1.3) which were pathologic .

She was immediately started with CVVHDF ander after that with the dialysis 3 times weekly for six weeks, which could be stopped , because the GFR was 61 ml/min/m^2 , urin output > 100 ml /hour and creatnin 1.3 mg/dl .

Because of the unclear cause of her accelerated decrease in kidney function with need for the continuous dialysis a kidney biopsy was performed that showed microthrombi and lymphatic infiltrates as an expression of vaccination damage.

Brain CT performed on the first day of admission showed a subacute medullary lesion on the left periventricular side. The Brain MR showed multiple small subacute ischaemias, mainly in the centrum semiovalenbds

Discussion:

Thje cardiovascular complications have been reported with both COVID-19 and its vaccination. Vaccination has a siginificant effort on the pervention of severe SARS-CoV-19 infect and ist complications[(9)].

The extra cause of the vaccine complications is not exactly understood, but they are likely due to inflammatoryimmune system response to compnents oft he vaccine that attack cells and tissue in the body[(10)].

Blood clots can form in veins and arteries. Typical locations are in legs and hands, less common are in the abdominal organs or brain[(11)].

The complications are realy rare, as example the incidence of the VITT is observed in 1/100.000 vaccineexposures[(12)].

Conclusions:

The COVID-19 continue to cause significant morbidity and mortality over the world. The COVID-19 vaccines have adverse side effects, whic are rare but also sometimes fluminant too.

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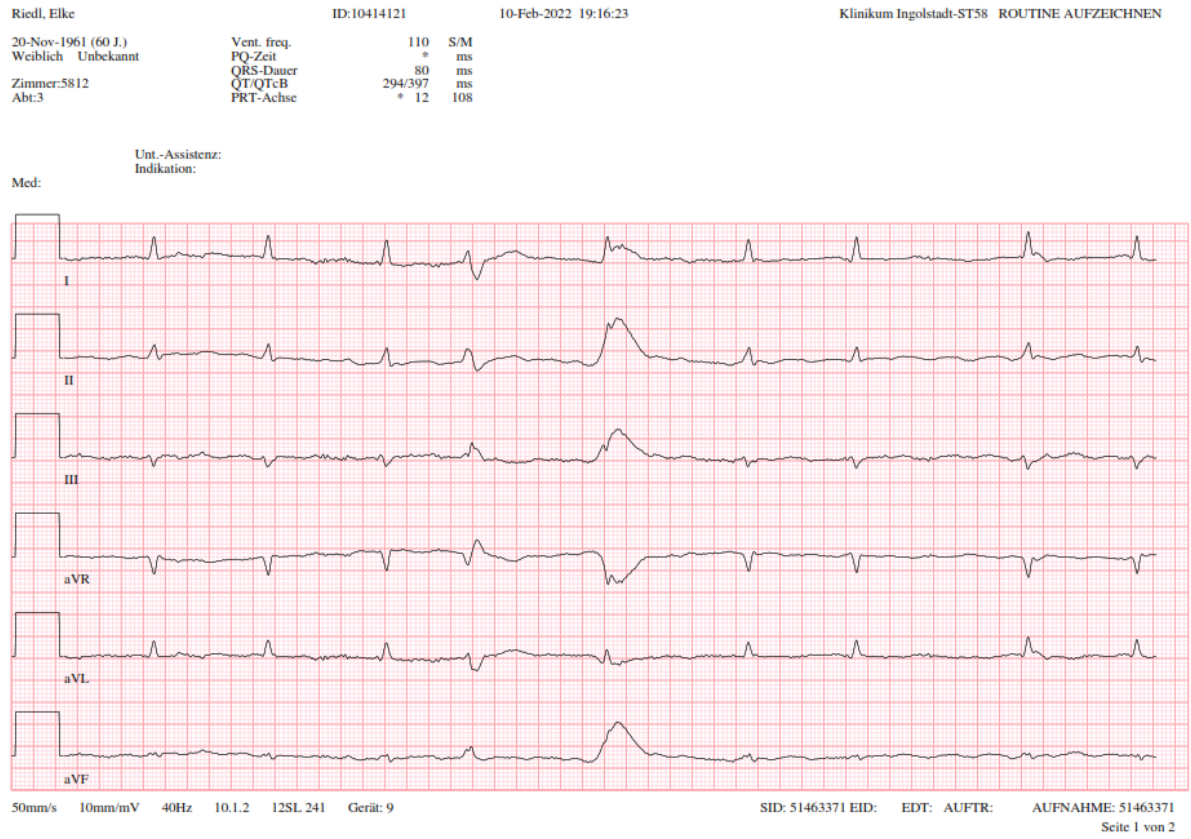
Images: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Weiblich Unbekannt
Zimmer:5812
Abt:3
Vent. freq. 110 S/M
PQ-Zeit * ms
QRS-Dauer 80 ms
QT/QTcB 294/397 ms
PRT-Achse * 12 108
Unt.-Assistenz:
Indikation:
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I
II
III
aVR
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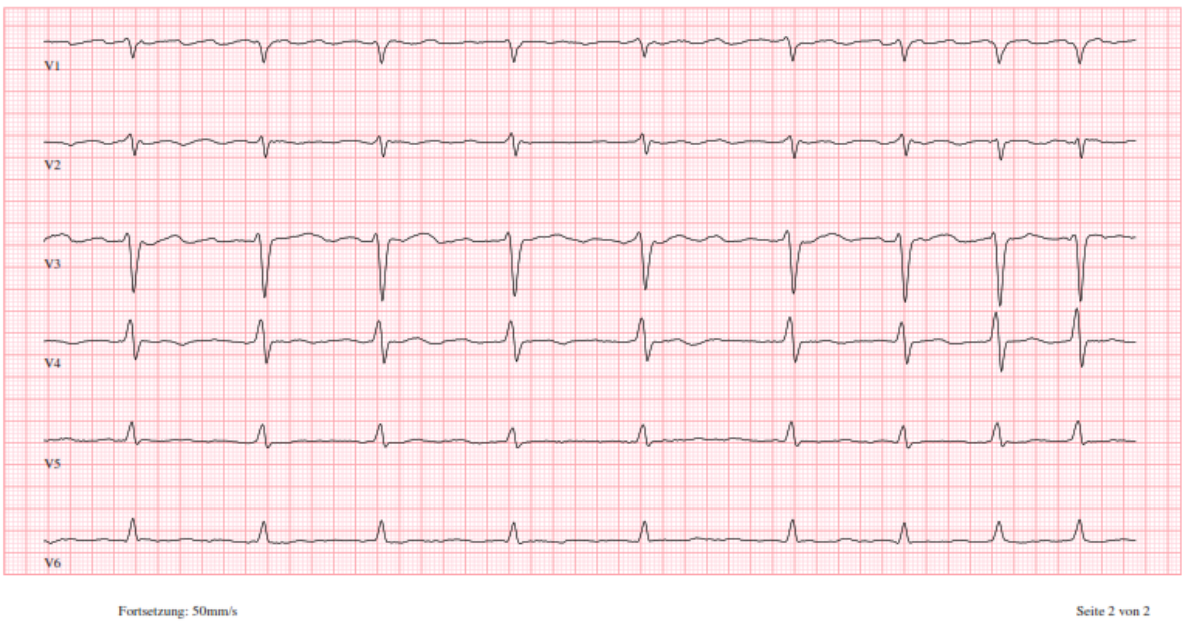
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Zimmer:9308
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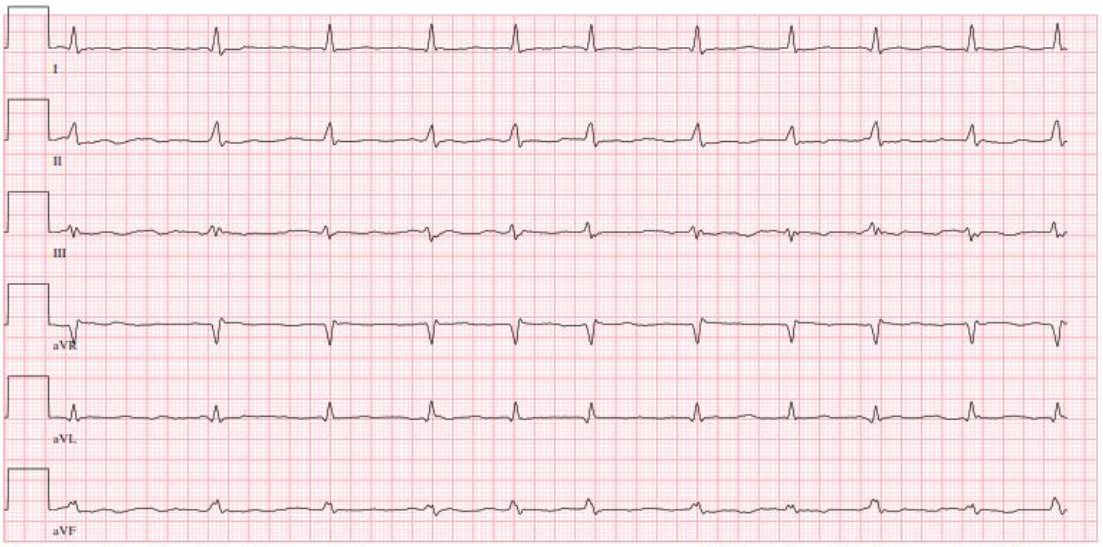

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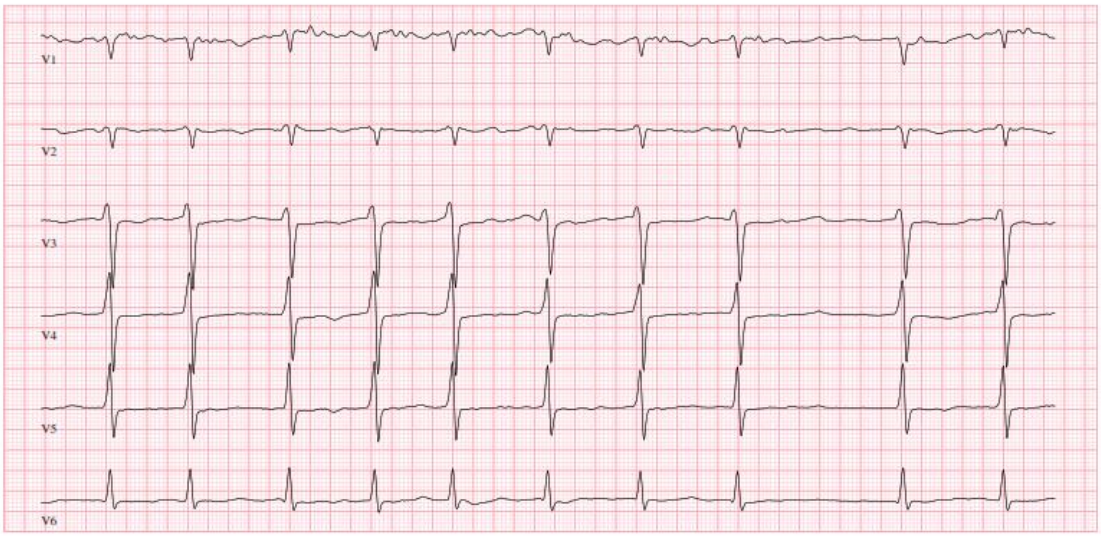

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20-Nov-1961 (60 J.)	Vent. freq.	125	S/M
Weiblich Unbekannt	PQ-Zeit	*	ms
	QRS-Dauer	80	ms
Zimmer:9308	QT/QTcB	274/395	ms
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Unt.-Assistenz:
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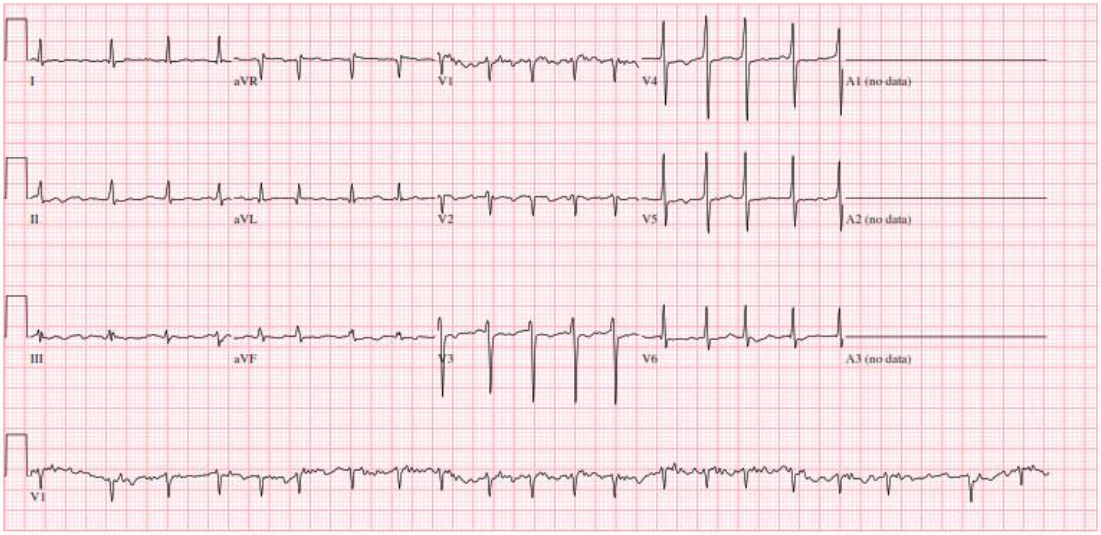

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Fall:51463371
20.11.1961 weibl.
60 Jahre

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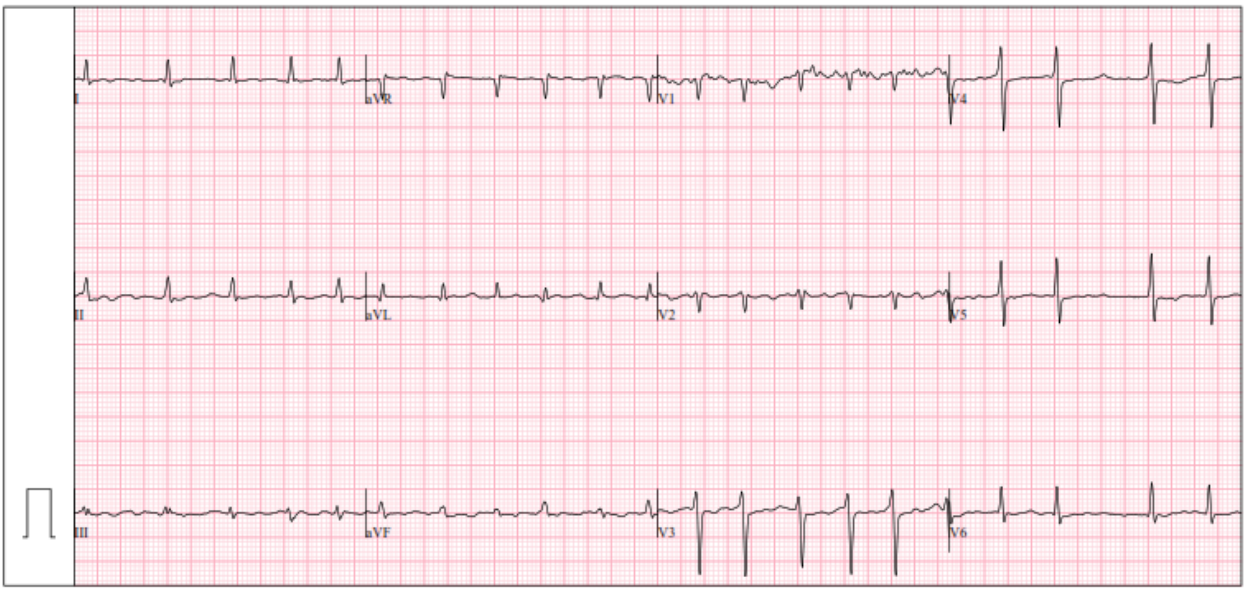
Abteilungsnr. : 3

125 /min
-- / -- mmHg

QRS :	80 ms
QT / QTcBaz :	274 / 395 ms
PQ :	-- ms
P :	-- ms
RR / PP :	480 / 594 ms
P / QRS / T :	-- / 20 / 269 Grad

Vorhofflimmern [chaotische Vorhofaktivität und stark schwankendes RR-Intervall]
nichtspezifische ST- und T-Wellenabnormalität [ST- und T-Abweichung nicht in Übereinstimmung mit den Infarktkriterien]
abnormales EKG



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