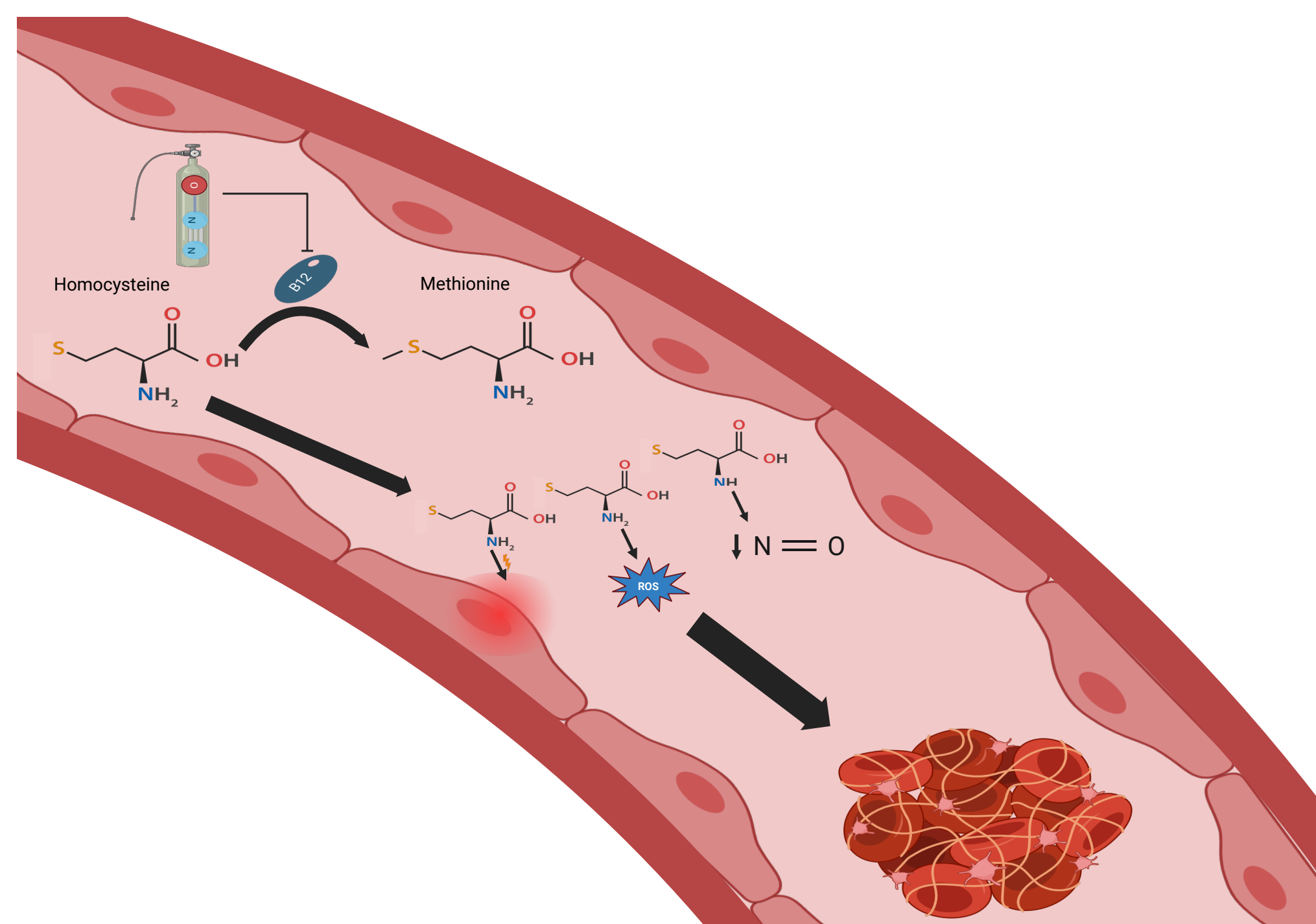


From Party Drug To Pulmonary Disaster - A Fatal Case Study

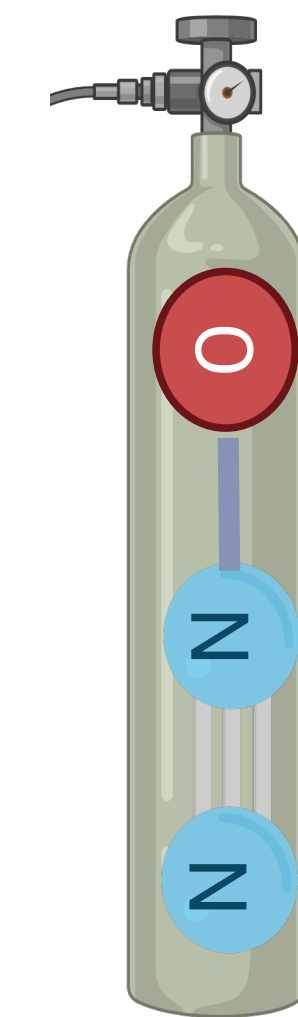
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INTRODUCTION

- Recreational nitrous oxide (N_2O) use has surged in use among young adults
- N_2O use can cause a hypercoaguable state via irreversible inactivation of vitamin B12, leading to hyperhomocysteinemia
- When combined with other hypercoaguable factors, recreational N_2O can have devastating consequences as seen in this case



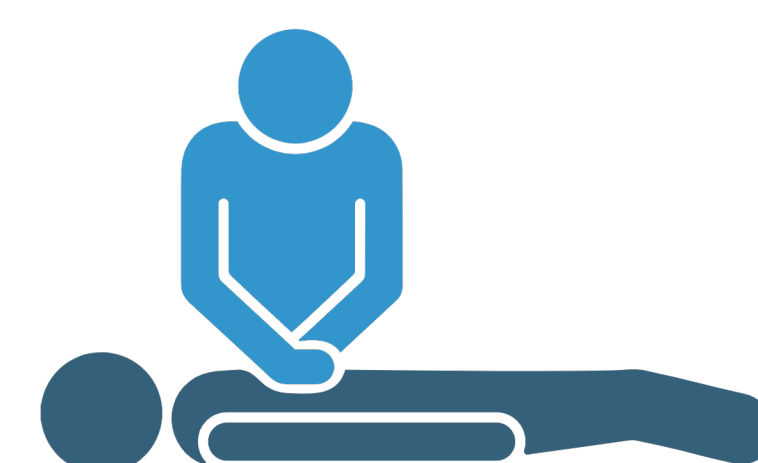
Case



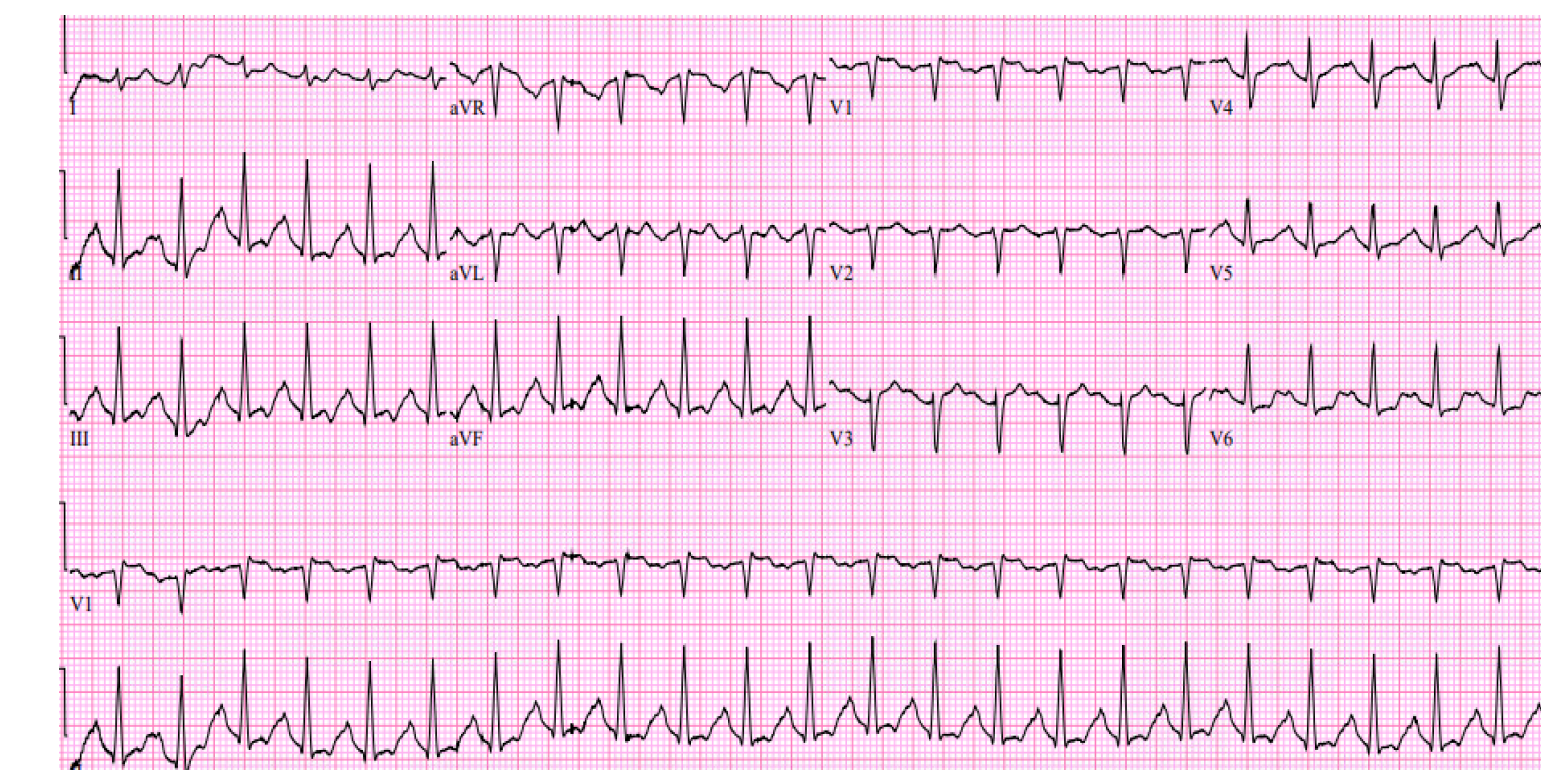
28-year-old woman with obesity and oral contraception use presented with dyspnea and chest pain after recreational nitrous oxide ("whippits") inhalation

During transport for CTA PE, the patient experienced sudden cardiac arrest, requiring 9 minutes of CPR and thrombolytic therapy

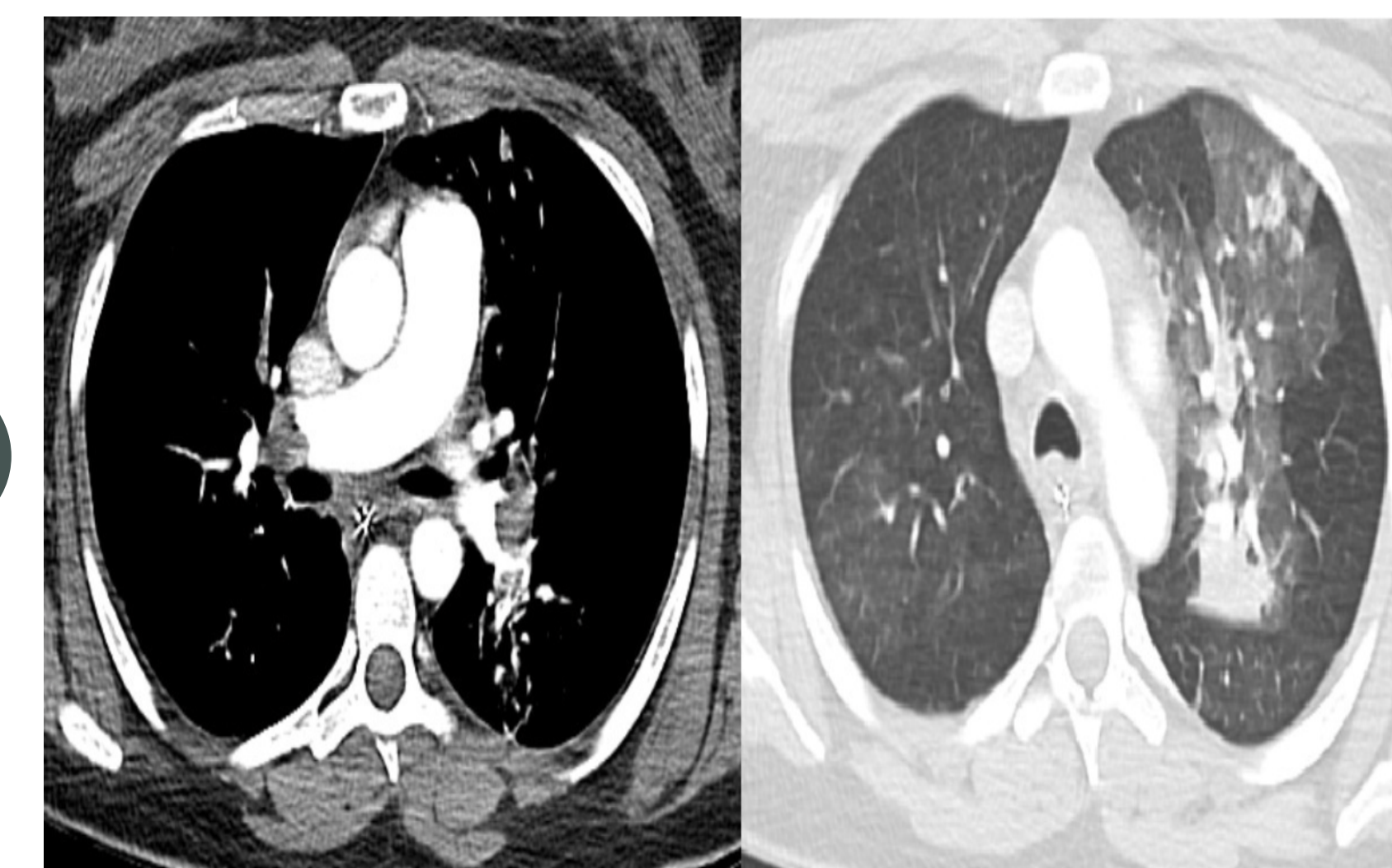
The patient experienced multiple subsequent cardiac arrests and developed refractory shock with severe acidosis



Labs showed an elevated D-dimer, high-sensitivity troponins, a high-anion gap metabolic acidosis, and SVT



CTA PE showed massive bilateral PE with RV:LV ratio of 1.5



ECMO was deemed futile and comfort care was initiated

Discussion

- N_2O ("whippits") use has become a popular party drug among across the United States
- When combined with other hypercoaguable factors, this can lead to a prothrombotic state resulting in VTE
- N_2O causes endovascular injury through multiple mechanisms: generation of reactive oxygen species, direct endothelial damage, activation of the coagulation cascade, inhibition of thrombolysis, and a reduction in vasodilatory signaling molecules
- Recognition of this agent as a prothrombotic agent is imperative as its use continues to rise