1 2 3 4 5	COUNTY OF SANTA CLARA OFFICE OF THE MEDICAL EXAMINER-CORONER 850 Thornton Way San Jose, CA 95128-4702 (408) 793-1900						
6	REPORT OF AUTOPSY						
7 8 9	NAME: DOWD, Patricia Cabello CASE # 20-00436						
10 11	DATE AND TIME OF AUTOPSY: Friday, February 7, 2020 @ 1001 hours AGE: 57 years ETHNICITY: Hispanic SEX: Female LEN: 61 inches WT: 165 p	ounds					
12 13 14	IDENTIFICATION:						
15 16 17 18	An autopsy is performed on a body labeled with two Medical Examiner tags attached to the great toe, each inscribed with "20-00436 Dowd, Patricia 2-6-2020 Wimmer #7." In addition photographs are taken for identification purposes. The body is positively identified visually the decedent's husband, Dean Dowd, on February 6, 2020.	n,					
19 20 21	The autopsy is performed under the legal authority of the Office of the Medical Examiner-Coroner of the County of Santa Clara, California.						
22 23 24	CLOTHING AND ACCOMPANYING EFFECTS:						
25 26 27 28	The body is received clad in the following items: 1. A black, pink, and white short-sleeved shirt. 2. A pair of matching pajama pants.						
29 30 31 32	The shirt is focally soiled with blood along the rear aspect; the articles of clothing are other clean, dry, and intact and are released with the body. There are no accompanying effects or valuables.						
33	EXTERNAL EXAMINATION:						
34 35 36 37 38	The body is that of a well-developed, mildly obese (body mass index of 31.2 kg/m²), adult Hispanic female, weighing approximately 165 pounds, measuring approximately 61 inches appearing to be consistent with the stated age of 57 years old. The body is unembalmed an reveals no evidence of decomposition.						
39 40 41 42 43	The previously refrigerated body is cold to the touch. Rigor mortis is well developed in sm joints and moderately developed in large joints. Red-pink, fixed, marked lividity is seen or posterior aspects of the body except in areas exposed to pressure.						
44 45 46	The head reveals injuries described below. The scalp hair is wavy and dyed brown-black was gray roots, measuring approximately 9 inches in maximum length. The irides are brown was prominent arcus senilis and the pupils are round and symmetric. The corneae are smooth as	ith					

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clear. The sclerae and conjunctivae are pale without evidence of petechial hemorrhages. The pinnae and external auditory canals are unremarkable; each carlobe is picreed twice. The nasal skeleton is palpably intact. No foreign material is within the nostrils or oral cavity. The lips and oral mucosa display no injuries. The maxillary and mandibular teeth are natural and in good condition.

The neck is symmetric and atraumatic. The shoulders and chest are atraumatic. The breasts are unremarkable. The abdomen is protuberant. The external genitalia are atraumatic and those of a normal adult female. The back is without note; the anus is unremarkable.

The upper and lower extremities are symmetric and atraumatic. The fingernails are short, clean, and regular and are covered with clear nail polish. The toenails are short, clean, and regular and are covered with residual brown nail polish.

IDENTIFYING MARKS AND SCARS:

- 1. A 7-1/2-inch horizontal linear scar across the medial anterior pelvis.
- 2. Pale striae across the abdomen.
- 3. Scattered hyperpigmented papules on the face and dorsal left upper extremity.

EVIDENCE OF MEDICAL INTERVENTION:

1. Electrocardiogram electrodes on the bilateral anterior arms and legs.

EVIDENCE OF INJURY (EXTERNAL AND INTERNAL):

1. There are three lacerations on the medial occipital scalp, measuring up to 1/2 inch each and associated with mild subgaleal hemorrhage.

2. There is a 1-inch focus of subgaleal hemorrhage on the left parietal scalp.

INTERNAL EXAMINATION:

BODY CAVITIES:

The body is opened with the standard Y-shaped incision. The subcutaneous fat layer of the abdominal wall is 4.7 cm thick. No significant adhesions or abnormal collections of fluid are present in any of the body cavities. The uterus is surgically absent; the remaining body organs are present in the usual anatomical position. There is no internal evidence of blunt force or penetrating injury to the thoraco-abdominal region.

HEAD (CENTRAL NERVOUS SYSTEM):

The scalp is reflected and reveals focal injuries described above. The calvarium shows no fracture. Removal of the calvarium reveals no evidence of epidural or subdural hemorrhage. The dura is intact and unremarkable. The leptomeninges are thin and delicate without evidence of subarachnoid hemorrhage. The brain weighs 1220 grams and is submitted with the dura mater to

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Lieber Institute for subsequent neuropathologic examination (see separate *Neuropathology Reports*). The pituitary gland is unremarkable.

The basilar skull is intact without fracture. The atlanto-occipital joint, atlanto-axial joint, and dens are intact. The spinal cord is not directly examined.

NECK:

Examination of the soft tissues of the anterior neck, including large vessels and strap muscles, reveal no abnormalities. The hyoid bone and larynx are intact and without injury or obstructing lesions or foreign bodies.

CARDIOVASCULAR SYSTEM:

The heart weighs 290 grams. The pericardial surface is smooth and glistening and shows diffuse blue discoloration due to the presence of 300 cc of liquid and clotted blood within the pericardium. The pericardial sac is otherwise free of adhesions. Identified on the apical aspect of the posterior left ventricle is a 2.0 x 1.0 cm focus of epicardial hemorrhage. The remaining epicardial surfaces are otherwise without note. The coronary arteries arise normally and follow the usual distribution with right dominance. Serial sections of the coronary arteries reveal no significant degree of atherosclerosis or other anomalies. The chambers of the heart are mildly dilated but otherwise exhibit the usual positional relationship. The atrial and ventricular septa are intact. The focus of epicardial hemorrhage previously noted correlates with a transmural, hemorrhagic defect of the apical posteromedial left ventricle, around which is a 3.5 x 3.0 x 1.4 cm area of variegated red-tan, mildly indurated parenchyma. The endocardium and valve leaflets are otherwise unremarkable. The myocardium is otherwise firm and brown without additional areas of pallor, hyperemia, or fibrosis. The left ventricle measures 1.0 cm and the right ventricle measures 0.4 cm in thickness as measured 1 cm below the respective atrioventricular valve annulus. The interventricular septum measures 1.0 cm in thickness.

The aorta and its major branches have a normal course and caliber and show atheromatous plaques throughout. The venae cavae and their major tributaries return to the heart in the usual distribution and are free of thrombi.

RESPIRATORY SYSTEM:

The right lung weighs 370 grams. The left lung weighs 340 grams. The visceral pleurae are smooth, moist, and glistening without adhesions. The lungs are normally inflated and are variegated pink-purple. Multiple cut sections exhibit variegated pink-purple parenchyma without consolidation or nodules. The lung parenchyma is mildly congested and shows no significant edema. The trachea and large bronchi are lined by smooth, tan mucosa and contain clear frothy fluid throughout. The pulmonary arteries are normally developed, patent, and without thrombus or embolus.

HEPATOBILIARY SYSTEM:

The liver weighs 1280 grams. The hepatic capsule is smooth, glistening, and intact, covering soft, brown-red parenchyma which exhibits no lesions. The gallbladder contains approximately

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10 cc of green-yellow, mucoid bile; the mucosa is velvety and unremarkable. The extrahepatic 135 biliary tree is patent, without evidence of calculi. 136 137 RETICULOENDOTHELIAL SYSTEM: 138 The spleen weighs 70 grams. The spleen has a smooth, intact capsule covering red-purple, 139 140 moderately firm parenchyma; the lymphoid follicles are unremarkable. The regional lymph nodes appear normal. The bone marrow (rib) is red-purple. 141 142 **GASTROINTESTINAL SYSTEM:** 143 The tongue reveals no evidence of injury. The esophagus is lined by smooth, gray-white mucosa 144 and shows no lesions. The stomach contains approximately 200 cc of masticated green leafy and 145 starch fragments within a thick tan liquid base; no identifiable foreign objects, pills, or capsules 146 are identified. The gastric mucosa reveals the normal rugal folds without peptic or stress 147 ulcerations. The small and large bowels demonstrate a normal course and caliber. The appendix 148 is present and unremarkable. 149 150 **GENITOURINARY SYSTEM:** 151 The right kidney weighs 90 grams. The left kidney weighs 100 grams. The renal capsules strip 152 with ease revealing finely granular, red-brown cortical surfaces. The cortices are delineated 153 from the medullary pyramids, which are red-purple and unremarkable. The calyces, pelves, and 154 ureters are unremarkable. The urinary bladder is empty of urine and reveals a smooth, gray-tan 155 mucosa. The uterus is surgically absent and the bilateral fallopian tubes and ovaries are present. 156 The right ovary shows a 0.8 cm-diameter brown-red hemorrhagic cyst. The appendages are 157 otherwise without note. 158 159 **ENDOCRINE SYSTEM:** 160 The pancreas shows a normal tan-pink lobulated appearance and the duct is clear. 161 The adrenal glands are unremarkable. 162 The thyroid gland is unremarkable. 163 164 MUSCULOSKELETAL SYSTEM: 165 Muscle development is normal. No bone or joint abnormalities are noted. 166 167 Celena Rubio, Forensic Autopsy Technician. **ASSISTANT:** 168 169 WITNESSES: None. 170 171 Multiple digital photographs are obtained. PHOTOGRAPHS: 172 173 **SPECIMENS:** 174 175

toxicologic analysis (Basic panel).

2. Nasopharyngeal swabs are submitted for viral analysis.

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1. One gray top-tube containing peripheral blood is submitted to NMS Laboratories for

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- 3. Additional samples of central blood, vitreous humor, bile, and gastric contents are retained. No additional peripheral blood or urine is obtained.
 - 4. Pulled scalp hair and a DNA card are retained in the file.
 - 5. Representative tissue samples are retained in formalin.

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SPECIMENS SENT FOR TOXICOLOGY: Peripheral blood.

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Toxicologic analysis demonstrates that acetone, ethanol, isopropanol, methanol, and common drugs of abuse are not detected.

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ANCILLARY LABORATORY RESULTS:

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Viral studies, Nasopharynx:

- Influenza A / Influenza B / Respiratory syncytial virus (RSV) rapid assay: Negative.
- Parainfluenza virus, types 1 to 4: Not detected.
- Respiratory viral culture¹: Negative.

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SARS-CoV-2 analysis (see separate Centers for Disease Control (CDC) Pathology Report):

- Heart: regional infarct with associated mixed inflammation.
 - Molecular evidence of SARS-CoV-2
 - Trachea: mild lymphocytic tracheitis.
 - Molecular evidence of SARS-CoV-2.
 - No molecular evidence of influenza A or B virus, parainfluenza viruses 1-4, or RSV.
- Lung: pulmonary edema and aspiration; mild lymphocytic interstitial infiltrates.
 - Molecular evidence of SARS-CoV-2.
 - No molecular evidence of influenza A or B virus, parainfluenza viruses 1-4, or RSV.
- Intestines: no significant histologic findings.
 - Molecular evidence of SARS-CoV-2.
 - No immunohistochemical evidence of SARS-Co-V-2 in heart, trachea, lung, or intestines.

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TISSUES FOR HISTOLOGY: Heart, lungs, liver, kidneys.

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MICROSCOPIC EXAMINATION (H&E):

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Heart (slides A - C): Sections of the left ventricular rupture site (A) show acute hemorrhage throughout the myocardium around a transmural defect within transmural subacute myocardial infarction marked by parenchymal edema, moderate mixed chronic and acute inflammation (macrophages, lymphocytes, eosinophils, and neutrophils), and early fibroblast response. Patchy myocyte injury and inflammation also involves the epicardial and endocardial parenchyma. Injured myocytes show contraction band necrosis, elongation and attenuation of myofibers, and hypereosinophilic or vacuolated/pale cytoplasm. Mixed

¹ Viruses that can be isolated by culture include adenovirus; cytomegalovirus; enteroviruses; herpes simplex virus; influenza A and B viruses; parainfluenza virus types 1, 2, 3; respiratory syncytial virus; and varicella-zoster virus.

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chronic inflammation is also noted within the epicardium and endocardium. The left ventricular and septal parenchyma adjacent to the rupture site (A, B) also show large patchy areas of similar subacute injury and inflammation with rare clusters of lymphocytes and macrophages. A grossly uninvolved section of the right ventricle (B) shows similar patchy transmural subacute injury and inflammation. No organisms or viral cytopathic changes are appreciated. The remaining sections of uninvolved myocardium (B, C) show occasional clusters of skinny wavy myofibers and hypereosinophilic myocytes without inflammation. Background mild myocyte hypertrophy is present. No significant fibrosis is present.

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Lungs (slides D, E): A section of each lung lobe shows patchy lymphocytic interstitial inflammation and very mild lymphocytic inflammation of occasional bronchi and bronchioles, which contain sloughed epithetical cells and rare bacterial clusters without associated inflammation. Patchy intra-alveolar edema is present. No pulmonary thrombosis, acute inflammation, hyaline membranes, or polarizable foreign debris is present.

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Liver (slide E): A representative section shows minimal macrovesicular steatosis and focal, minimal, portal and lobular lymphocytic inflammation. No significant fibrosis or polarizable foreign debris is present.

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Kidneys (slide E): A section of each kidney shows rare glomerulosclerosis and mild fibrointimal and medial hyperplasia of arteries. No significant inflammation or polarizable debris is present.

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PATHOLOGIC DIAGNOSES:

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I. COVID-19 INFECTION

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A. SARS-CoV-2 RNA detected in heart, trachea, lung, and intestines.

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1. Additional viral studies (nasopharynx and respiratory tissues) otherwise negative. B. Transmural myocardial ischemia (infarction) with a minor component of myocarditis.

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1. Rupture of left ventricle of heart.

251 252 a) Acute hemopericardium (300 cc) resulting in cardiac tamponade.

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Mild cardiac dilatation.
 No coronary atherosclerosis or thrombosis.

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C. Reported history of "flu-like" symptoms in days prior to death.

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D. Unremarkable adult brain (see Neuropathology Reports).

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II. CLASS 1 OBESITY (BODY MASS INDEX OF 31.2 kg/m²)
A. Mild cardiac dilatation.

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- III. POSTMORTEM TOXICOLOGY NEGATIVE, PERIPHERAL BLOOD
- A. See separate *Toxicology Report*.

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263 264	CAUSE OF DEATH:	Acute Hemopericardium due to Rupture of Left Ventricle due to
265		Transmural Myocardial Ischemia (Infarction) with
266		a Minor Component of Myocarditis due to
267		COVID-19 Infection.
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269	Other significant conditions:	Class 1 Obesity.
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271	MANNER OF DEATH:	Natural.
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273		Susau J. Parson MD Austotaol Medical Examiner Forensic Pathologist Santa Clara County Medical Examiner-Coroner Office
273	El .	4/23/2020
275		SUSAN J. PARSON, MD
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