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Case Report Open d Access

Retinal Vein Occlusion by Intracameral Lidocaine Drop Containing Graphene Can Be Revasculized by Nacl + Kcl Injection After Cataract Surgery, And Normalized Coagulation System Disorders

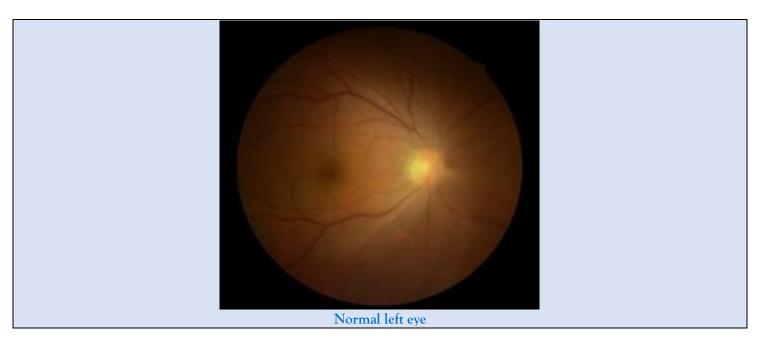
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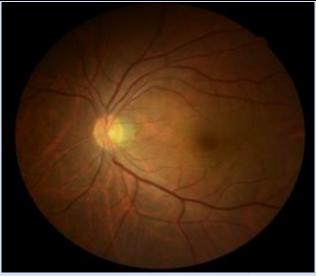
Description

A 55-year-old man who had blurred vision due to cataract of both eyes, were performed standard phacoemulsification intraocular with implantation 1 years ago. During the operation, after 1 or 2 drops of topical lidocaine hydrochloride 1% (Xylocaine®-MPF 1%) were applied to the ocular surface, a 1.0 mm side-port incision was created through which Xylocaine-MPF 1% injected into the anterior chamber. On the follow-up examination opthalmology clinic, the cataract surgery, a dilated and tortuous retinal vessels involving the right eye. Upon examination was 20/20 in both normal colour vision and no relative afferent pupillary defect. Dilated fundus examination showed a superior nasal BRVO in the right eye. Laboratory tests including complete blood count, erythrocyte sedimentation

C-reactive hemoglobin A1c. rate. protein, normalized international ratio/partial thromboplastin time, homocysteine, anti-cardiolipin, lupus anticoagulant, factor V Leiden were all normal. The patient had no medical comorbidities, and was not taking any medication. Hematology consultation did not uncover any additional risk factors. The intravenous infusion of a solution consisting of 250 mL normal saline with potassium chloride (KCl) over 6 h, vitamin C intake resulted in recovery of the fundus exam findings (1-6). RVO which includes BRVO is the second most common vision-threatening retinal vascular disorder (7). We postulate that an immunological response evoked by the graphene in the lidocaine, venous thrombosis in patient. The pathogenesis may involve microvascular alternations at the level of the retina.



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Lidocaineeyedropofsurgeryside

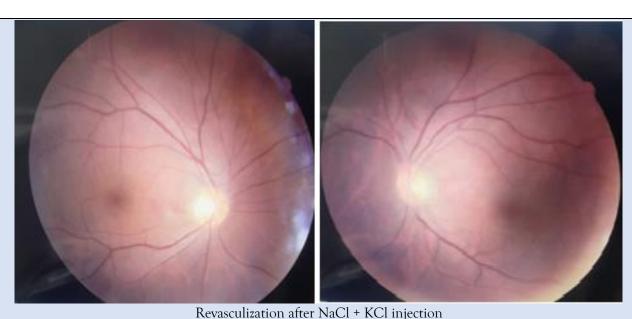


Figure 1: Colour eye temporal branch retinal vein occlusion demonstrating venous dilation and tortuosity. The findings were normalized after NaCl + KCl injection.

A 59-year-old man with right basal ganglia infarct to our hospital with a history of left extremity weakness, vital signs: blood pressure 140 (systolic) / 83 (diastolic), heart rate 74, platelet count of 374000/cmm, Asparagine aminotransferase (AST) 28 IU/l, Alanine aminotransferase (ALT) 32 IU/l, Blood Urea Nitrogen (BUN) 12.7 mg/dl, Creatinine (Cr) 1.05 and erythrocyte sedimentation rate (ESR) 48 mm in the first hour using Westergren method, C-reactive protein (CRP) 0.29 mg/dl, thrombin time (PT) 19.4 second, prothrombin time (PTT) 25.5 second, international normalized ratio (INR) 1.94. The intravenous infusion of a solution consisting of 250 mL normal saline with potassium chloride (KCl) over 6 h, vitamin C intake resulted in recovery of PT 13.5 second, PTT 28.9 second, INR 1.29.

Circulating anticoagulants are usually autoantibodies that "attack" specific clotting factors, such as an autoantibody against factor V, or inhibit phospholipid bound proteins. Patients may develop lupus anticoagulant hypoprothrombinemia antiphospholipid syndrome. Occasionally, the latter type of autoantibody causes bleeding by binding to prothrombin-phospholipid complexes. antibodies may develop due to autoimmune disease or be graphene-induced (8). Protein C, a vitamin Kdependent protease presented in low levels in human inhibiting thrombin production and plasma, coagulation. The functions of protein C, inflammation and cytoprotection, protein S, a cofactor to activate protein C in the cleavage of Va. C

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and S, inherited and acquired, autosomal recessive inheritance.

Table 1: Normalization of thrombin time (PT) prolongation of thse similar cases after NaCl + KCl injection.

Laboratory	Case 1.	Case 1.	Case 2.	Case 2.	Case 3.	Case 3.
data	initial	after NaCl +KCl	initial	After NaCl +KCl	initial	after NaCl +KCl
PT	15.4	14.9	15.5	15	15.1	13.1
INR	1.49	1.4	1.5	1.4	1.46	1.24
PTT	26	26.7	25.4	26.7	28.4	25.4
BUN	21.6	13.9	15.9	17.3	13.9	13.9
Cr	1.44	0.6	0.94	0.65	0.74	0.6
AST	33	30	38	17	21	29
ALT	35	22	11	11	20	24

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