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Highlights

Long-Term Joint Morbidity

Epidemic Inadequately Diagnosed

Airgun Pellet in Soft Tissue

Management of Malignant Renal Cyst

Discovering Thoughts, Inventing Future

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High Blood Pressure, an Epidemic Inadequately Diagnosed and Poorly Controlled: A Community-based Survey in Kinondoni District, Dar Es Salaam Tanzania

By Pedro Pallangyo, Paulina Nicholaus, Peter Kisenge, Mohamed Aloyce, Maria Samlongo, Tulizo Shemu & Mohamed Janabi

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Abstract- Background: Population ageing, rapid urbanization and unhealthy lifestyles continue to transform global health. The prevalence of hypertension which currently affects over a billion people globally is rapidly increasing while the rates of its awareness, treatment and control remain low especially in developing nations. We aimed to determine the prevalence, awareness, control and associated factors for hypertension among residents of the largest district in Dar es Salaam.

Methods: We conducted a cross-sectional, community-based survey in January 2016, 1831 persons were recruited. Physical activity was assessed using the physical activity vital sign scale (PAVS) and alcohol dependence was assessed by the CAGE questionnaire. Trained personnel measured and recorded blood pressure and anthropometric measures. Hypertension was defined according to the 7th Report of the Joint National Committee (JNC 7) or use of blood pressure lowering medications. Multivariate logistic regression analyses were performed to assess for factors associated with high blood pressure.

Keywords: high blood pressure, hypertension, excess body weight, physical inactivity, hypertension control, hypertension awareness, obesity.

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Pedro Pallangyo [α], Paulina Nicholaus [σ], Peter Kisenge [ρ], Mohamed Aloyce [ω], Maria Samlongo [¥], Tulizo Shemu [§] & Mohamed Janabi [χ]

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Results: The mean age of participants was 43.6 years and 63.5% were women. 1.1% were current smokers, 5.3% were alcohol dependent, 64.3% had excess body weight, and 67% were physically inactive. 63.3% of individuals had hypertension, and 51% of these were unaware of their hypertensive status. Among those with hypertension awareness, 17.5% had their hypertension controlled. Age ≥40, male sex and BMI ≥25 were strongly associated with a newly diagnosed hypertension status, (OR 5.7, 95% CI 4.2-7.8, p<0.001; OR 1.6, 95% CI 1.1-2.2, p<0.01; and OR 2.9, 95% CI 2.1-4.1, p<0.001 respectively).

Conclusions: Our findings suggest that excess body weight is a single modifiable risk factor strongly associated with high blood pressure. Majority of persons with high blood pressure are undetected and thus unaware of their hypertensive status. Furthermore, hypertension control rates are very low.

Keywords: high blood pressure, hypertension, excess body weight, physical inactivity, hypertension control, hypertension awareness, obesity.

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I. Background

While infectious diseases continue to plague sub-Saharan Africa, the rapid increase in non-communicable diseases (NCDs) is exacerbating an already distressing situation. Faced by impoverished health care systems and poor infrastructure, a rising trend of NCDs in Africa is making the battle against the ever present infectious diseases even more difficult. Cardiovascular disease is currently the number one killer in developing countries, claiming as many lives as HIV, TB and malaria combined.[1-3] With a 7% attribution to the global burden of disease, hypertension is indeed the single most substantial cause of disability and mortality worldwide.[4-6] Accountable for about 50% of deaths due to heart disease, kidney failure and stroke in 2013, hypertension remain a significant threat to global health and development.[7-9]

Despite having a high asymptomatic potential, easy diagnostic modality, and a clear management strategy, the rates of hypertension awareness, treatment and control is very low especially in developing nations.[10] Tanzania like other third world countries is witnessing an upsurge of NCDs with hypertension among the leading etiologies. This community-based survey conducted in Kinondoni district, Dar es Salaam, aimed to determine the prevalence, awareness, control and associated factors for high blood pressure in the targeted urban population.

II. Methods

a) Study Oversight & Definition of Terms

In January 2016, we conducted a community-based cross-sectional survey in Kinondoni district, the largest district in Dar es Salaam city. 1831 persons who voluntarily came to the screening grounds after hearing

the screening advert through the media were recruited and screened. Socio-demographic parameters were gathered through interviews utilizing a structured questionnaire. We grouped age into 4 categories; children: <18 years, young adults: 18-39 years, middle age 40-54 years and elderly: ≥55 years. [11] Physical activity was assessed using the Physical Activity Vital Sign (PAVS) scale[12]; with scores of 0 minutes/week denoting inactivity, 1 - <150 minutes/week signifying underactivity and ≥150 minutes/week indicating physical activeness. Weight and Height were measured using the standard measuring scales and BMI for those aged 20 years and above was calculated by a ratio of weight (in kilograms) to height (in meters) squared. For those under 20 years, a CDC BMI calculator for children and teens[13] was utilized. We defined underweight as BMI<18.5 kg/m^2, normal: BMI 18.5-24.9 kg/m^2, overweight: BMI 25-29.9 kg/m^2 and obese: BMI ≥30 kg/m^2.[14] Individuals who smoked at least 1 cigarette in the past 6 months were regarded as current smokers, those who last smoked over 6 months or self-reported quitting smoking were considered past smokers and those who never smoked but currently live with a smoker were regarded as passive smokers. Alcohol drinking was defined as at least a once consumption every week. Alcohol dependence was assessed by the CAGE questionnaire[15], where a total score of 2 or greater was used to define alcohol dependence. Blood pressure (BP) was measured by digital BP machines where a systolic blood pressure (SBP) <120 mmHg and a diastolic blood pressure (DBP) <80 mmHg was used to define normotension/optimal BP. Pre-hypertension was defined by SBP of 120-139 mmHg or DBP of 80-89 mmHg, while SBP ≥140 mmHg or DBP ≥90 mmHg indicated hypertension.[16] A hypertensive subset with SBP ≥180 mmHg or DBP ≥ 110 mmHg was regarded as hypertensive crisis.[17] Awareness of hypertension was defined as a self-report of any prior diagnosis of hypertension in a health facility and/or use of anti-hypertensives. Controlled hypertension/BP was defined as awareness of hypertension associated with a SBP <140mmHg and DBP <90mmHg. All interviewers and medical personnel involved in the screening were familiar with the study aims and methods.

b) Statistical analysis

All statistical analyses were performed by STATA v11.0 software. Summaries of continuous variables are presented as means (± SD) and categorical variables are presented as frequencies (percentages). Categorical and continuous variables were compared using the Pearson Chi square tests and Student's T-test respectively. Bivariate analyses were performed to assess for factors associated with high blood pressure. Significant variables ($p<0.05$) were then entered in a multivariate logistic regression model to control for confounders. Odd ratios with 95% confidence intervals and p-values are reported. Statistical significance was set at $p<0.05$ and all tests were two tailed.

III. Results

a) Study Population

Table 1 displays the socio-demographic characteristics of 1831 recruited persons. The mean age was 43.6 ± 16.8 years, and 63.5% were women. Primary education was the highest level attained in 58% of participants, married subgroup comprised the largest proportion (58%) with regard to marital status and 4.4% had health insurance.

b) Risk Factors for High Blood Pressure

Smoking status, alcohol intake and physical activity was assessed among persons aged 18 years and above (n = 1708). Regarding smoking history; 1.1% (19/1708) were current smokers, 5.2% (89/1708) were past smokers and 4.2% (72/1708) were passive smokers. Current use of alcohol was reported by 11% (188/1708) of participants, 48.4% of whom were alcohol dependent. The mean PAVS score was 59.8 minutes/week. About 67% (1144/1708) of participants were inactive, 18.3% (313/1708) were underactive and 14.7% (251/1708) were active. While age and BMI differences displayed similar rates of physical inactivity, female sex was associated with a 70% increased chance of being inactive compared to males, (OR 1.7, 95% CI 1.3-2.3, $p<0.001$).

The mean BMI of participants was 27.8 ± 7.1. Overall, 97 (5.4%) were underweight, 544 (30.3%) had normal BMI, and 1155 (64.3%) were overweight or obese; Table 2. Age ≥40 and female sex displayed a higher likelihood for being overweight and/or obese, (OR 4.0, 95% CI 3.2-5.0, $p<0.001$ and OR 2.3, 95% CI 1.8-2.8, $p<0.001$ respectively).

c) Blood Pressure Control and Hypertension Awareness

Of the 1796 persons who responded to the questions regarding history of chronic disease, 688 (38.3%) had a history of at least one chronic illness. Cardiovascular related diseases were reported by 612 (88.9%) of those with a positive history of chronic illness, 559 (91.3%) of whom had hypertension awareness.

The prevalence of hypertension in this study was 63.3% (1137/1796) and 49.2% (559/1137) of these were aware of their hypertensive status. The mean SBP and DBP of persons aware of their hypertensive status was 166.0 ± 29.8 and 100.6 ± 17.7 respectively. During screening, 82.5% (461/559) of persons with hypertension awareness had their BPs uncontrolled, with 45.3% (209/461) of these falling under the hypertensive crisis range. Sex and BMI differences displayed a similar pattern of BP control, however age ≥40 displayed a 3 times increased likelihood for poor

BP control compared to age <40, (OR 3.2, 95% CI 1.3-7.2, p<0.01).

Blood pressure range of persons with no prior history of hypertension (n=1237) by age, sex and BMI status is displayed in Table 3. Of these, 19.2% (237/1237) had optimal BP, 34.1% (422/1237) had pre-hypertension and 46.7% (578/1237) were newly diagnosed with hypertension. 20.4% (118/578) of the new hypertensives had their BPs within the hypertensive crisis range. During multivariate logistic analysis; age ≥40, male sex and BMI ≥25 were strongly associated with a newly diagnosed hypertensive status, (OR 5.7, 95% CI 4.2-7.8, p<0.001; OR 1.6, 95% CI 1.1-2.2, p<0.01; and OR 2.9, 95% CI 2.1-4.1, p<0.001 respectively).

d) Echocardiography Findings

We performed echocardiograms (ECHO) on 205 newly-diagnosed and 340 persons aware of their hypertensive status. Overall, 47% (256/545) of ECHOs revealed features of hypertensive heart disease (HHD), 9.4% (51/545) dilated cardiomyopathy (DCM), 2.0% (11/545) valvular heart disease (VHD) and 41.6% (227/545) had normal findings. Of the ECHOs performed on newly diagnosed hypertensives, 34.1% (70/205) revealed HHD, 5.4% (11/205) DCM, 1.5% (3/205) VHD and 59.0% (121/205) had normal findings.

IV. Discussion

Nearly two-thirds of individuals in this recent urban community-based screening had high blood pressure. In contrast to previous studies, these findings are substantially high. In a systematic review of hypertension studies in Africa by Addo[18] et al, there was a wide variation in hypertension prevalence ranging from 9.3%[19] in Ethiopia to 48.1%[20] in Mozambique. Our findings nevertheless are in unison with another population-based Tanzanian study which found a prevalence of 70%[21], this study however involved persons aged above 70 years.

Correlates of high blood pressure included age ≥40, male sex and BMI ≥25 which were associated with up-to 5-fold increased chance of being hypertensive. These factors and others including physical inactivity are well established risk factors that have been consistently demonstrated in several studies.[22,23] The rates of hypertension were nearly similar to the rates of excess body weight in this study. This potentially implied that overweight/obesity was the strongest modifiable factor associated with hypertension. Physical inactivity was not a significant factor for hypertension in this present study, it should be noted however that the population we screened was predominantly inactive. Moreover, the observation that females were more likely to be inactive than males was reciprocated in the BMI measurement in the sense that females displayed higher likelihood for excess body weight compared to males. The overall rates of obesity in this present study were almost twice the rates found by Shayo[24] et al in the same setting in 2010. In unison to Shayo et al study, we also found higher rates of obesity among females. We were intrigued by the observation that although females were significantly obese than males, hypertension rates were higher in males compared to females. Androgen mediated abnormalities in pressure natriuresis is currently the plausible theory explaining the differences in hypertension rates between sexes.[25]

One in every two persons with high blood pressure in this study was unaware of their hypertensive status. Reported rates of hypertension awareness in Africa ranges from 12.3% among Nairobi slum dwellers to 81% in urban Tunisia.[26,27] Remarkably, one out of every five persons who were unaware of their hypertensive status had BP elevated to crisis levels. It is well known that such high BP is critical and warrant immediate evaluation as can result to multiple organ failure including blindness, kidney failure, heart failure and stroke.[17] One third of newly diagnosed hypertensives had echocardiographic changes consistent with hypertension (i.e. left ventricular hypertrophy). This finding reflects the high asymptomatic potential of hypertension and suggests that regular BP measurement is important. Hypertension control rates are uniformly low amongst studies and according to a systematic review by Kayima et al, Tanzanian populations whether urban or rural had the lowest control rates of <7%.[3] In contrast to these findings, our control rates were over twice as much and even so should be regarded as low.

This study has a number of strengths including; (i) we recruited over 1800 persons, a good number suitable for subgroup analyses, (ii) the use of standard tools which allow for comparability among studies, and (iii) we performed ECHO on a subset of individuals aware of their hypertension status and those newly diagnosed to assess for cardiovascular changes associated with hypertension. Our study had some few limitations including; (i) the recruitment process and measurements (weight, height and BP) could have potentially introduced selection bias and non-differential bias respectively, and (ii) our hypertension rates could be somewhat overestimated as we relied on a single occasion BP measurement to make the diagnosis. Future studies in this area should thoroughly assess dietary habits and salt intake and its association with excess body weight and hypertension.

V. Conclusions

In conclusion, our findings suggest that excess body weight is a single modifiable risk factor strongly associated with high blood pressure. Moreover, majority of persons with hypertension are undetected and thus unaware of their hypertension status. In view of this,

communities living especially in resource-limited settings need to be educated and continuously reminded on the importance of regular health check-up, exercising consistently and healthy eating as crucial strategies in implementing primary prevention. Furthermore, counseling on the importance of adherence to medication and life-style modification should be incorporated in all consultations.

Declarations

Ethical Consideration

The study was approved by the Unit of Research of the Jakaya Kikwete Cardiac Institute (JKCI) and the permission to conduct the study was granted by the Office of the Kinondoni District Commissioner. All the participants or their legal proxy's verbally consented to participate in the screening. Participants who were in a clinically unstable state were rushed to the Mwananyamala district hospital for appropriate attention and intervention. Prescription amendments and new drug prescriptions were issued accordingly. Persons who required a further assessment and clinic enrolment were scheduled as appropriate to attend the JKCI or Mwananyamala district hospital.

Availability of Data and Materials

The final version of data set supporting the findings of this paper may be found in the Jakaya Kikwete Cardiac Institute website (www.jkci.or.tz). The corresponding author will be more than willing to email the data set to the editorial committee whenever it's needed.

Competing interest: The authors declare that they have no conflict of interest to declare.

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Authors Contributions: MJ, PK, and PP made contributions in conception and design of the study. PP and PN contributed in analysis and manuscript development. PK, MA, MS, TS and MJ revised the manuscript. All authors have read, contributed to and approved the final version for publication

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Tables and Captions

Table 1 : Socio-Demographic Characteristics of Screened Persons

Characteristic		n (%)
Age: mean (SD), years		43.6 (16.8)
Age groups		
	<18	123 (06.7%)
	18-39	601 (32.8%)
	40-54	615 (33.6%)
	≥55	492 (26.9%)
Sex		
	Female	1163 (63.5%)
	Male	668 (36.5%)
Education level		
	None	130 (07.1%)
	Primary	1062 (58.0%)
	Secondary	515 (28.1%)
	Post-Secondary	124 (06.8%)
Marital status		
	Single	467 (25.5%)
	Married	1061 (58.0%)
	Divorced	106 (05.8%)
	Widowed	197 (10.7%)
Income: mean (SD), USD		128 (165)
Income category		
	<$1/day	177 (14.7%)
	$1-2/day	210 (17.5%)
	>$2-5/day	601 (50.0%)
	>$5/day	213 (17.8%)

Health Insurance	
Insured	81 (04.4%)
Uninsured	1750 (95.6%)

*Income assessment represents 1201 households; $1 was assumed to be equivalent to 2000Tsh

Table 2 : BMI's of Screened Persons by Age and Sex

Characteristic		BMI category			
		underweight	normal	overweight	Obese
Overall		97 (05.4%)	544 (30.3%)	499 (27.8%)	656 (36.5%)
Age group					
	<18	44 (50.0%)***	39 (44.3%)	1 (01.1%)***	4 (04.6%)***
	18-39 ∞	34 (05.7%)	277 (46.0%)	152 (25.3%)	138 (23.0%)
	40-54	10 (01.6%)***	120 (19.5%)***	191 (31.1%)*	294 (48.8%)***
	≥55	9 (01.8%)**	108 (22.0%)***	155 (31.5%)*	220 (44.7%)***
Sex					
	Female	52 (04.5%)	279 (24.4%)	285 (24.9%)	528 (46.2%)***
	Male	45 (06.9%)*	265 (40.6%)***	214 (32.9%)***	128 (19.6%)

Key: ∞: reference group ; *: p<0.05 ; **: p<0.01 ; ***: p<0.001

Table 3 : Blood Pressure Range of Persons with Negative History of Hypertension

Characteristic		Blood Pressure Range		
		normotensive	pre-hypertensive	hypertensive
Overall		237 (19.2%)	422 (34.1%)	578 (46.7%)
Age group				
	<18	12 (60.0%)	7 (35.0%)	1 (05.0%)***
	18-39 ∞	149 (29.1%)	209 (40.8%)	154 (30.1%)
	40-54	53 (12.5%)	145 (34.1%)	227 (53.4%)***
	≥55	23 (08.2%)	61 (21.8%)	196 (70.0%)***
Sex				
	Female	156 (20.1%)	280 (36.0%)	342 (43.9%)
	Male	81 (17.6%)	142 (30.9%)	236 (51.5%)**
BMI Category				
	Underweight	20 (45.5%)	16 (36.4%)	8 (18.1%)***
	Normal ∞	126 (30.1%)	143 (34.2%)	149 (35.7%)
	Overweight	48 (13.4%)	117 (32.6%)	194 (54.0%)***
	Obese	43 (10.3%)	146 (35.1%)	227 (54.6%)***

Key: ∞: reference group ; **: p<0.01 ; ***: p<0.001

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Sympathetic Ophthalmia after 25-Gauge Transconjunctival Sutureless Vitrectomy: One Case Report

By S.El haouzi, E colas, A. Jait, J Akesbi, T Rodallec & Pr J-P. Nordmann

Summary- We report a case of a sympathetic ophthalmia that occurred after 25-gauge transconjunctival sutureless vitrectomy for a retinal detachment.

Case report: A 36-year-old men suffering from high myopia underwent 25-gauge transconjunctival sutureless vitrectomy for a rhegmatogenous retinal detachment in the right eye amblyopic. Endolaser photocoagulation and C2F6 gas tamponade were used to manage several retinal holes. Three weeks after the initial surgery, he returned with a 2-day history of reduced vision and metamorphopsia in his left eye. Slit- lamp examination showed a shallow anterior chamber in the right eye and moderate anterior uveitis bilaterally. Fundus examination showed applied retina in the right eye and multifocal serous retinal detachments in the left one. A diagnosis of sympathetic ophthalmia was made and the patient was treated with intensive topical and systemic steroids.

Keywords: fluorescein angiograhy, hypotony, optical coherence tomography, retinal detachment, shallow anterior chamber, uveitis.

GJMR-I Classification: NLMC Code: WI 480

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Sympathetic Ophthalmia after 25-Gauge Transconjunctival Sutureless Vitrectomy: One Case Report

Ophtalmie Sympathique Après Vitrectomie Transconjonctivale 25-Gauge Sans Suture : A Propos D'un Cas

S. El haouzi [α], E colas [σ], A. Jait [ρ], J Akesbi [ω], T Rodallec [¥] & Pr J-P. Nordmann [§]

Résumé - Nous rapportons le cas d'une ophtalmie sympathique après vitrectomie 25gauge chez un patient de 36ans fort myope, opéré pour décollement de rétine temporal supérieur de l'oeil amblyope droit avec endolaser et tamponnement par gaz C2F6 avecrétine appliquée en post opératoire. 3 semaines après la chirurgie le patient a consulté pour baisse d'acuité visuelle de l'oeil controlatéral. l'examen à la lampe à fente montré au niveau de l'oeil droit un Tyndall cellulaire de chambre antérieure une croix, gaz à 50% et rétine appliquée. Uneuvéite granulomateuse modérée bilatérale. Le fond d'oeil gauche montre des décollements séreux de rétine multiples polylobés et papille hyperhémiée

Le diagnostic de l'ophtalmie sympathique a été posé suite à un faisceau d'arguments.

La mise en place d'une corticothérapie agressive systémique et topique a permis une amélioration lente de la vision des deux yeux.

Douze mois après le début de l'inflammation, le patient état stable sous combinaison de cyclosporine par voie orale et des stéroïdes topiques.

Conclusion: l'ophtalmie sympathique peut se développer après vitrectomie transconjonctivale 25 Gauge sans suture malgré le petit calibre des sclérotomies. Avec l'élargissement des indications de vitrectomie par voie transconjonctivale sans sutures devrait-on s'attendre à voir plus d'ophtalmie sympathique surtout chez les patients prédisposés génétiquement ?

Nous recommandons que des précautions particulières doivent être prisespour les sites de sclérotomie à la fin de la chirurgie.

Mots-clés: angiographie à la fluorescéine, hypotonie, tomographie par cohérence optique, décollement de rétine, uvéite granulomateuse.

Summary- We report a case of a sympathetic ophthalmia that occurred after 25-gauge transconjunctival sutureless vitrectomy for a retinal detachment.

Case report: A 36-year-old men suffering from high myopia underwent 25-gauge transconjunctival sutureless vitrectomy for a rhegmatogenous retinal detachment in the right eye amblyopic. Endolaser photocoagulation and C2F6 gas tamponade were used to manage several retinal holes. Three weeks after the initial surgery, he returned with a 2-day history of reduced vision and metamorphopsia in his left eye. Slit-lamp examination showed a shallow anterior chamber in the right eye and moderate anterior uveitis bilaterally. Fundus examination showed applied retina in the right eye and multifocal serous retinal detachments in the left one. A diagnosis of sympathetic ophthalmia was made and the patient was treated with intensive topical and systemic steroids. The subretinal fluid cleared in following treatment. Twelve months after the onset of inflammation, the patient's condition was stable on a combination of oral cyclosporine and topical steroids. Sunset glow retinal changes remain, but there has been no evidence of recurrent inflammation.

Conclusion: Sympathetic ophthalmia can develop after 25-gauge transconjunctival sutureless vitrectomy despite its smaller sclerotomy size. We recommend that special care should be taken to inspect for adequate closure of sclerotomy sites at the end of this operation.

Keywords: fluorescein angiograhy, hypotony, optical coherence tomography, retinal detachment, shallow anterior chamber, uveitis.

I. Introduction

L'ophtalmie sympathique est définie comme une panuvéite granulomateuse bilatérale qui survient au décours d'une plaie transfixiante traumatique ou chirurgicale. Elle représente probablement une réaction auto-immune contre les mélanocytes de la choroïde survenant sur un terrain génétiquement prédisposé, éventuellement potentialisée par un agent infectieux. Sur le plan histologique, l'ophtalmie sympathique est caractérisée par une inflammation granulomateuse, diffuse de la choroïde, avec une choriocapillaire classiquement épargnée (1) Son incidence est estimée entre 0,02 et 0,09 % après chirurgie oculaire (2).Son diagnostic repose sur l'anamnèse, les données cliniques et paracliniques. La prise en charge thérapeutique, basée en première intention sur les corticoïdes, doit être précoce et rigoureuse pour préserver la fonction visuelle. Les cas d'ophtalmie sympathique rapportés Suite à une vitrectomie transconjonctivale sans suture (23- ou 25 - gauge) sont rares (2)

Nous présentons un nouveau cas confirmant le risque de développer une ophtalmie sympathique après ce type de chirurgie.

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II. Observation

Nous rapportons le cas d'un patient âgé de 36 ans , fort myope et amblyope de l'œil droit admis aux urgences pour baisse d'acuité visuelle sur l'œil amblyope, Sa meilleure acuité visuelle corrigée est réduite à voit bouger la main de l'œil droit et de 10/10 de l'œil gauche.

Les pressions intraoculaires correspondantes étaient de 13 mmHg et 14 mmHg. L'examen biomicroscopique de l'œil droit montre un segment antérieur normal, le fond d œil a objectivé un décollement de rétine temporal supérieur sur plusieurs déchirures avec macula décollée.

Le patient n'avait pas d'antécédent de chirurgie ou de traumatisme oculaire.

l examen de l'oeil gauche ne montrait pas d'anomalie. Le patient a bénéficié d'une vitrectomie 25Gauge avec endolaser et tamponnement interne par gaz C2F6. En post opératoire la rétine était appliquée.

Le patient a reconsulté pour baisse d'acuité visuelle de l'œil Adelphe avec métamorphopsie trois semaines après la première intervention chirurgicale Sa meilleure acuité visuelle corrigée était de compte les doigts l'œil droit et de 1/10 à l'œil gauche.

Les pressions intraoculaires correspondantes étaient 10mmHg et 15 mmHg.

L'examen à la lampe fente montrait au niveau de l'œil droit un Tyndall cellulaire de chambre antérieure une croix, une rétine appliquée sous gaz à 50%. Une uvéite granulomateuse modérée bilatérale. Le fond d'œil gauche montrait une papille hyperhémiée, des décollements séreux de rétine, multiples polylobés (figure A), confirmés par la tomographie en cohérence optique (OCT). L'OCT a également montré des décollements de l'épithélium pigmentaire (figures I, J).

L'aspect fluoangiographique a montré aux temps précoces, un remplissage irrégulier, retardé de la choroïde (figureB); puis de multiples points hyperfluorescents (pin-points) apparaissent, associés à une accumulation progressive du colorant dans l'espace sous-rétinien (figures C, D) Les taches blanc jaunâtre, profondes sont hypofluorescentes aux temps initiaux, puis s'imprègnent progressivement à la phase tardive. Une hyperfluorescence papillaire tardive est fréquente (figure E).

L'angiographie au vert d'indocyanine retrouve une hypoperfusion choroïdienne, tâches hypofluorescentes, arrondies, de petite taille, à distribution homogène, visibles aux temps inter-médiaires, persistant ou disparaissant aux temps tardifs (figures F, G,H).

Un audiogramme a révélé une perte auditive légère. L'examen du liquide céphalorachidien a révélé une légère pléocytose.

Le diagnostic d'ophtalmie sympathiqueà 3 semaines de la chirurgie de décollement de rétine de l'œil droit par vitrectomie 25Gauge a été retenu après avoir éliminé les autres étiologies d'uveite granulomateuse.

Un traitement à base de corticostéroïdes et de cyclosporine était instauré : un bolus de méthylprednisolone à la dose de 1 g/j, 3 jours de suite, était indiqué, avec un relais par la prednisone per os pendant 1 mois au bout duquel la réponse au traitement était évaluée. Le patient a bénéficié également d'un traitement topique associant un corticoïde et un cycloplégique afin d'éviter la formation de synéchies postérieures. Après diminution significative des signes inflammatoires, une décroissance prolongée de prednisone par voie orale a pu être amorcéesur plusieurs mois pour être finalement remplacé par cyclosporine par voie orale.

Les Décollements séreux de rétine et les Décollements de l'épithélium pigmentaire ont régressé (figure K) après un mois de traitement mais le patient a gardé des séquelles type une altération de la ligne des photorécepteurs avec interruption de la continuité de la ligne IS/OS (figure L).

12 mois après le début de l'inflammation, elle est gérée avec la cyclosporine par voie orale (150 mg par jour) et corticothérapie topique. Aucun signe d'inflammation récurrente. Le patient a bénéficié de la chirurgie de la cataracte de l'œil vitrectomisé ; son acuité visuelle était de 6/10de l'œil droit et de 7/10 de l'œil gauche. Les pressions intraoculaires correspondantes étaient 10 mmHg et 15 mmHg.

III. Discussion

L'ophtalmie sympathique est une uvéite granulomateuse diffuse, bilatérale qui généralement s'initie après un traumatisme oculaire pénétrant, soit accidentel, soit chirurgical. L'intervalle de temps entre le début des symptômes et le traumatisme varie de quelques jours à plusieurs années. Son incidence estimée est de 0.3-0.5 % dans les traumatismes oculaires et 0.015 % dans la chirurgie oculaire.

Les études récentes prospectives montrent que la chirurgie derétine surtout les vitrectomies sont considérées comme facteur de risque d'ophtalmie sympathique contrairement aux études rétrospectives qui stipulaient que l'ophtalmie sympathique serait plus fréquente avec les traumatismes oculaires accidentels (3,4). L'incidence d'ophtalmie sympathique rapportée dans leur population était0, 03 / 100 000; développée dans 0,125% des patients après vitrectomie, et 0,074% des patients suivant la chirurgie classique de décollement de rétine. (3,4)

Le délai entre le trauma oculaire et le début de l'inflammation ne dépasse pas 12mois dans 90%des cas mais des délais plus longs (quelques années) ou plus courts (<2semaines ont été rapportés) (1)

L'étiologie de l'ophtalmie sympathique n'a pas été complètement comprise. Historiquement, il a été

émis l'hypothèse que l'inflammation diffusait à travers le nerf optique et puis à travers le chiasma à l'œil sain (5,6)

Des Hypothèses récentes proposent que l'ophtalmie sympathique résulte d'une réaction auto-immune induite par une exposition d'auto-antigènes de l'uvée; médiée par les Lymphocytes T sensibilisées à des antigènes liés à la mélanine uvéale anormalement exposée, ou libérée et drainée par le système lymphatique conjonctival.

La localisation de ces antigènes reste controversée et peut être situé dans le tissu uvéal, rétine ou les mélanocytes de la choroïde.

Histologiquement parlant on l'avait défini comme une infiltration nodulaire ou diffuse non nécrosante de toute l'uvée en particulier de la choroïde (4, 6, 7)

Survient sur terrain génétiquement prédisposé éventuellement potentialisée par un agent infectieux :au Japon, en Irlande et au Royaume Uni on retrouve la même prédisposition génétique ; le HLA DR4/DQw 3 prédisposant à l'ophtalmie sympathique et au VKH, est également corrélé à la sévérité de l'ophtalmie sympathique(6,7,8)

L'ophtalmie sympathique a été décrite après chirurgie de décollement de rétine par vitrectomie même avec succès (8, 9). Son Mécanisme reste incompris : hypothèse sur l'hypotonie du globe conduisant à une perturbation de la barrière Hémato rétinienne, également un hyphéma massif post opératoire associé à une hypotonie serait responsable d' une exposition de l'uvée à l'origine d la libération d'auto Antigène oculaire et de drainage des antigènes oculaires, de la mélanine, ou d'une fraction soluble des segments externes des photorécepteurs dans le système lymphatique (10).

Les récents progrès dans les techniques de microchirurgie ont conduit à l'adoption de vitrectomie transconjunctivale sans suture utilisant des micro-instruments 23- ou de 25 (7,8,11,12)

Ces systèmes de vitrectomie permettent l'utilisation de petites ouvertures, ce qui diminue théoriquement l'inflammation postopératoire.

Cependant, il y a aussi une préoccupation croissante que la vitrectomie transconjonctivale sans suture peut être associée un risque élevé d'hypotonie oculaire ultérieure (13, 14)

Notre cas souligne qu'il existe un risque d'ophtalmie sympathie chez les patients qui bénéficient d'une vitrectomie transconjunctivale sans suture en particulier lorsque cette technique est réalisée avec une fermeture insuffisante des sites de sclérotomie. Bien que le mécanisme exact de développement d'ophtalmie sympathique reste méconnu et est très probablement multifactorielle, le manque d étanchéités des sites de sclérotomie conduirait à une perturbation de la barrière hémato-rétinienne et à l'exposition d'antigènes oculaires, qui peuvent contribuer au développement de l'ophtalmie sympathique.

Avec l élargissement des indications de vitrectomie par voie transconjonctivale sans sutures devrait on s'attendre à voir plus d'ophtalmie sympathique surtout chez les patients prédisposés génétiquement ou ayant des facteurs de risque ?

Une uveite atypique ou qui persiste après vitrectomie devrait alerter le chirurgien au risque de développer une ophtalmie sympathique.

Nous recommandons qu'une attention particulière doive être accordée aux sites de sclérotomie pour vérifier leur étanchéité voire placer des sutures conjonctivales.

L'ophtalmie sympathique représente un défi pour l'ophtalmologiste dans tous ses aspects, notamment en ce qui concerne son diagnostic qui est d'exclusion ; la sévérité du tableau clinique et la prise en charge thérapeutique qui doit être instaurée le plus précocement possible. Le diagnostic précoce avec un traitement initial d'emblée agressif et prolongé conditionne le pronostic.

Le Rôle de l'éviscération ou de l'énucléation de l'œil sympathisant après l'installation de l'ophtalmie sympathique reste controversé (17)

Figures

Figure A : Fond d'œil gauche montrant les nodules de Dalen-fuchs avec décollement séreux rétinien multifocal et plis choroïdiens

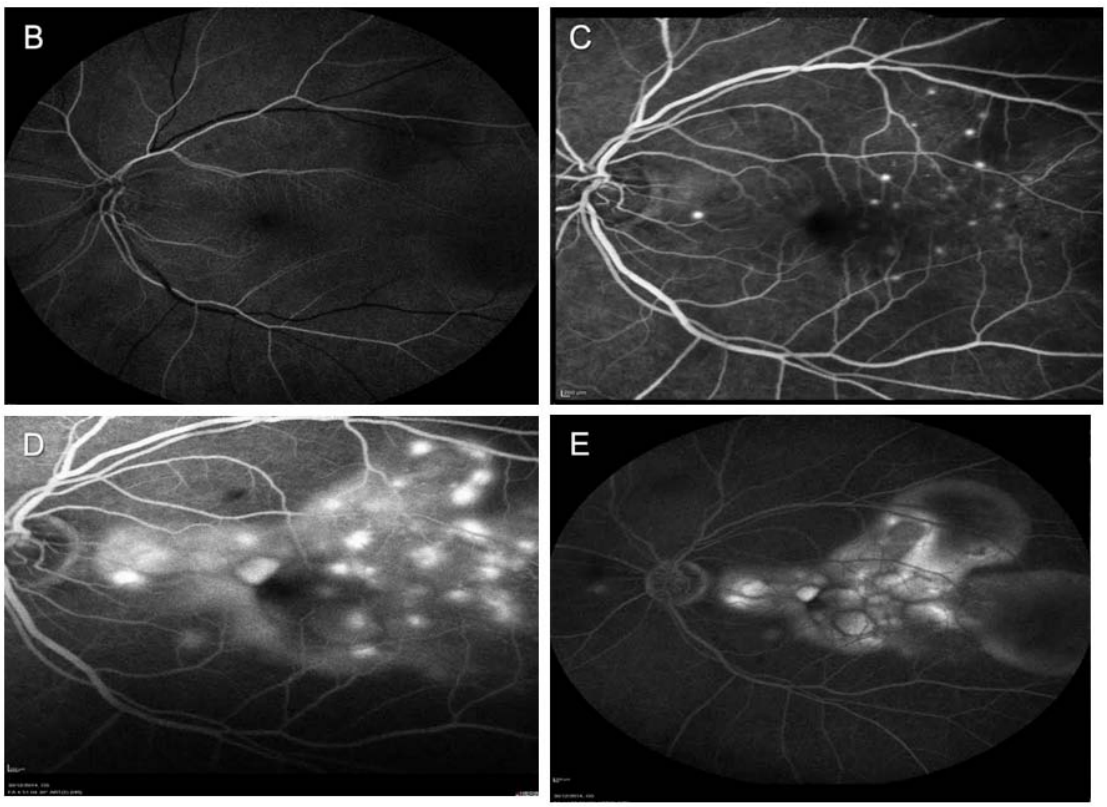
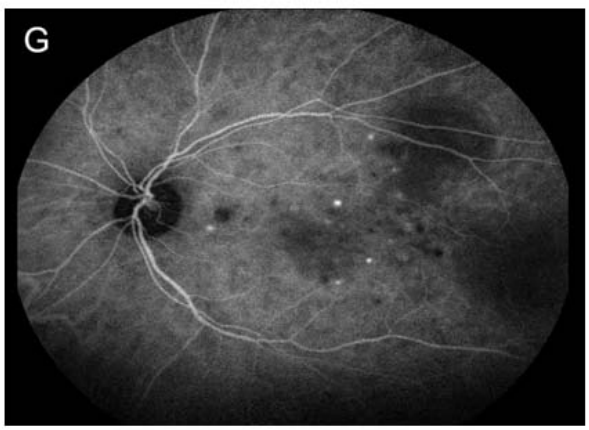


Figure : Angiographie à la fluorescéine montrant un remplissage irrégulier et retardé de la choroïde œil gauche B. Apparition de Multiples points hyperfluorescents: pin point (C) avec accumulation progressive de colorant dans l'espace sous rétinien(D)

Temps tardif, accumulation du colorant dans des poches de décollement séreux rétiniens, et discrète hyperfluorescence papillaire (E)



Angiographie au vert d'indocyanine ; (F) temps précoce hypoperfusion choroïdienne, apparition de tâches hypofluorescentes arrondies de petite taille qui persistant aux temps tardifs (G et H)

tomographie par cohérence optique en spectral Domain: montrant des décollements de l'épithélium pigmentaire et des décollements séreux de rétine à l'admission (I,J) et après un mois (K) montrant la normalisation de l'aspect de la couche de l'épithélium pigmentaire, avec interruption (flèches rouges) de la continuité de la ligne IS/OS (L)

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Les auteurs déclarent ne pas avoir de conflit d'intérêts en relation avec cet article.

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Management of Malignant Renal Cyst – Nephrectomy Case Presentation

By Dr. Nexhat Shabani, Prof. Dr. Mustafa Xhani, Dr. Albesa Shabani & Dr. Rrezart Xhani

Introduction- Renal cysts, in general, may be classified as “simple” or “complex”. “Simple” cysts are best defined using sonographic criteria. The difficulty arises when cysts do not meet the rigid characteristics of the “simple” definition. Therefore, clinicians need to rely on a rapid, safe and accurate system to identify benign versus malignant masses and ultimately have the guidance on nonsurgical or surgical treatment options. Malignant renal cyst is a very rare disease. In literature are prescribed as 0.5-1% of all renal cysts (1, 2). Their clinical symptoms are not specific and are mainly similar to the symptomatology of tumors and simple renal cysts (3, 8). Pre operative diagnostics procedure as intravenous urography -IVU, ultrasonic sonography, computed tomography-CT, magnetic resonance imaging -MRI, diagnostic punction of cysts and renal arteriography can rare determine the diagnosis (4, 5). The diagnosis based on Bosniak classification: Bosniak 1, Bosniak 2, Bosniak 2F, Bosniak 3 and Bosniak 4. Therefore the diagnosis is mostly determined by surgical intervention (6, 7). In this study, the authors have presented their case of hemorrhagic malignant renal cyst, which is treated by surgical intervention - nephrectomy.

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MANAGEMENTOFMALIGNANTRENALCYSTNEPHRECTOMYCASEPRESENTATION

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Management of Malignant Renal Cyst – Nephrectomy Case Presentation

Dr. Nexhat Shabani [α], Prof. Dr. Mustafa Xhani [σ], Dr. Albesa Shabani [ρ] & Dr. Rrezart Xhani [ω]

I. Introduction

Renal cysts, in general, may be classified as "simple" or "complex". "Simple" cysts are best defined using sonographic criteria. The difficulty arises when cysts do not meet the rigid characteristics of the "simple" definition. Therefore, clinicians need to rely on a rapid, safe and accurate system to identify benign versus malignant masses and ultimately have the guidance on nonsurgical or surgical treatment options. Malignant renal cyst is a very rare disease. In literature are prescribed as 0.5-1% of all renal cysts (1, 2). Their clinical symptoms are not specific and are mainly similar to the symptomatology of tumors and simple renal cysts (3, 8). Pre operative diagnostics procedure as intravenous urography -IVU, ultrasonic sonography, computed tomography-CT, magnetic resonance imaging -MRI, diagnostic punction of cysts and renal arteriography can rare determine the diagnosis (4, 5). The diagnosis based on Bosniak classification: Bosniak 1, Bosniak 2, Bosniak 2F, Bosniak 3 and Bosniak 4. Therefore the diagnosis is mostly determined by surgical intervention (6, 7). In this study, the authors have presented their case of hemorrhagic malignant renal cyst, which is treated by surgical intervention -nephrectomy.

II. Objective

A case of malign hemorrhagic renal cyst in a 32 –year -old woman is reported. The patient was admitted to our hospital for further evaluation of right upper abdominal mass. CT scan and ultrasonic sonography showed a right giant renal cystic mass. The characteristic findings were thick and irregular wall and heterogeneous contents of the cystic mass. The presence of a malignant tumor in the cyst wall was suspected and nephrectomy was performed. The specimen measured 10 x 6 x 4 cm. The cyst contained bloody fluid and a hemorrhagic degenerating mass. Pathohistological examination showed evidence of malignant hemorrhagic renal cyst.

III. Patient and Methods

We are going to present the case of a female patient referred to our clinic with the initial ultrasound diagnosis of right giant renal cyst about 10 cm. Physical examination revealed no abnormalities. Given the result of the ultrasound (thick walls and small irregularities) and the possibility of a complicated cyst, we decided to investigate the matter further, and programmed the patient for an enhanced abdominal computer tomography with intravenous contrast.

The enhanced CT images revealed a right kidney cystic mass, with a 10 cm diameter, thick irregular walls with contrast enhancement, hyperdens content, and no pathological lymph nodes or distant metastases. The diagnosis was a Bosniak IV.

IV. Bosniak Classification of Cystic Renal Masses

Bosniak 1. Simple cyst: Imperceptible wall, rounded. Work-up: nil. Percentage malignant: ~0%.

Bosniak 2. Minimally complex: A few thin <1 mm septa or thin calcifications (thickness not measurable); non-enhancing high-attenuation (due to proteinaceous or haemorrhagic contents) renal lesions of less than 3 cm are also included in this category; these lesions are generally well marginated. Work-up: nil. Percentage malignant: ~ 0%.

Bosniak 2F. Minimally complex: Increased number of septal, minimally thickened with nodular or thick calcifications. But no measurable contrast enhancement enhancing. Hyperdense cyst > 3 cm diameter, mostly intrarenal (less than 25% of wall visible); no enhancement. Requiring follow-up: needs ultrasound. CT of follow up -no strict rules on the time frame but reasonable at 6 months. Percentage malignant: ~ 5%.

Bosniak 3. Indeterminate: Thick, nodular multiple septa or wall with measurable enhancement, hyperdense on CT (see 2F). Treatment/work-up: partial nephrectomy or radiofrequency ablation in elderly or poor surgical candidates. Percentage malignant: ~ 55%.

Bosniak 4.Clearly malignant: Solid mass with a large cystic or a necrotic component. Treatment: partial or total nephrectomy. Percentage malignant: ~ 100%.

Our case was classified in stage Bosniak IV. Identifications of malignant cells established the definite diagnosis, while hemorrhagic contents, high lipid contention and lactate dehidrogenase -LDH are suggestive of malignancy. After pathological confirmation for malignant kidney cyst and adequate

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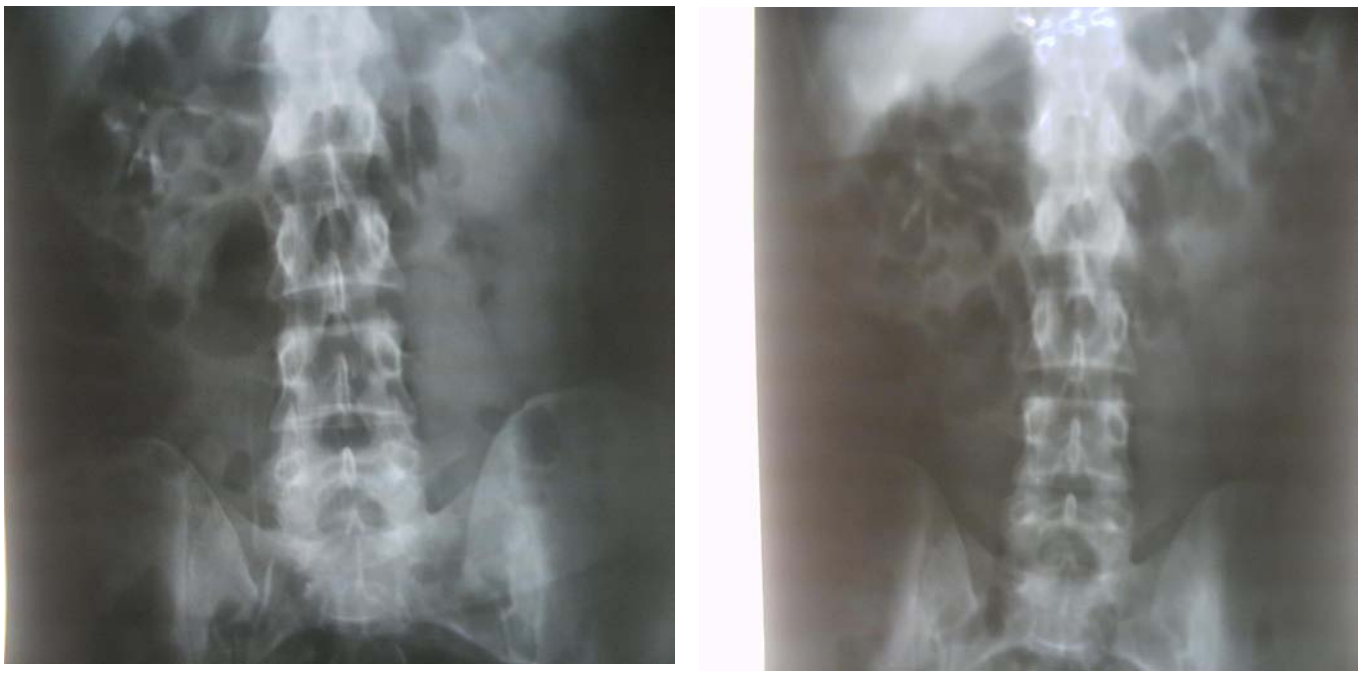
treatment, on these patients is likely to achieve long-term survival. The therapy of malignant cysts is always surgical and usually nephrectomy.

V. Results

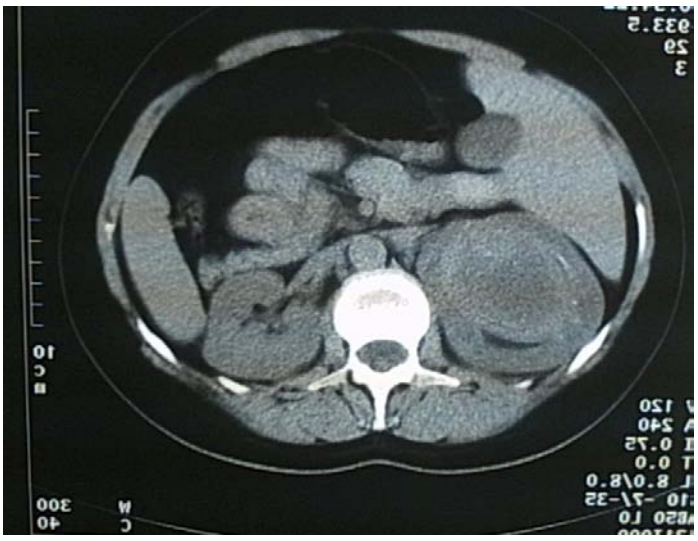
Patient: Xh.B, female 32 years old. Symptoms: pain and feeling heaviness below right rib arch and right flank, for a long time intermittently and now more frequently. No haematuria noted elevated blood pressure Laboratory assessment: ESR: 10; Glucose: 4.32; urea: 6.30; kreatinin: 63.2; Hgb: 127; RBC: 3.73; WBC: 7.6l; Hct: 0.36.

Echotomografic findings: There is a large well defined formation that occupies about upper two -three of the right kidney sized 10 x 6 x 4 cm hypoechogenic with hyperechogenic walls.

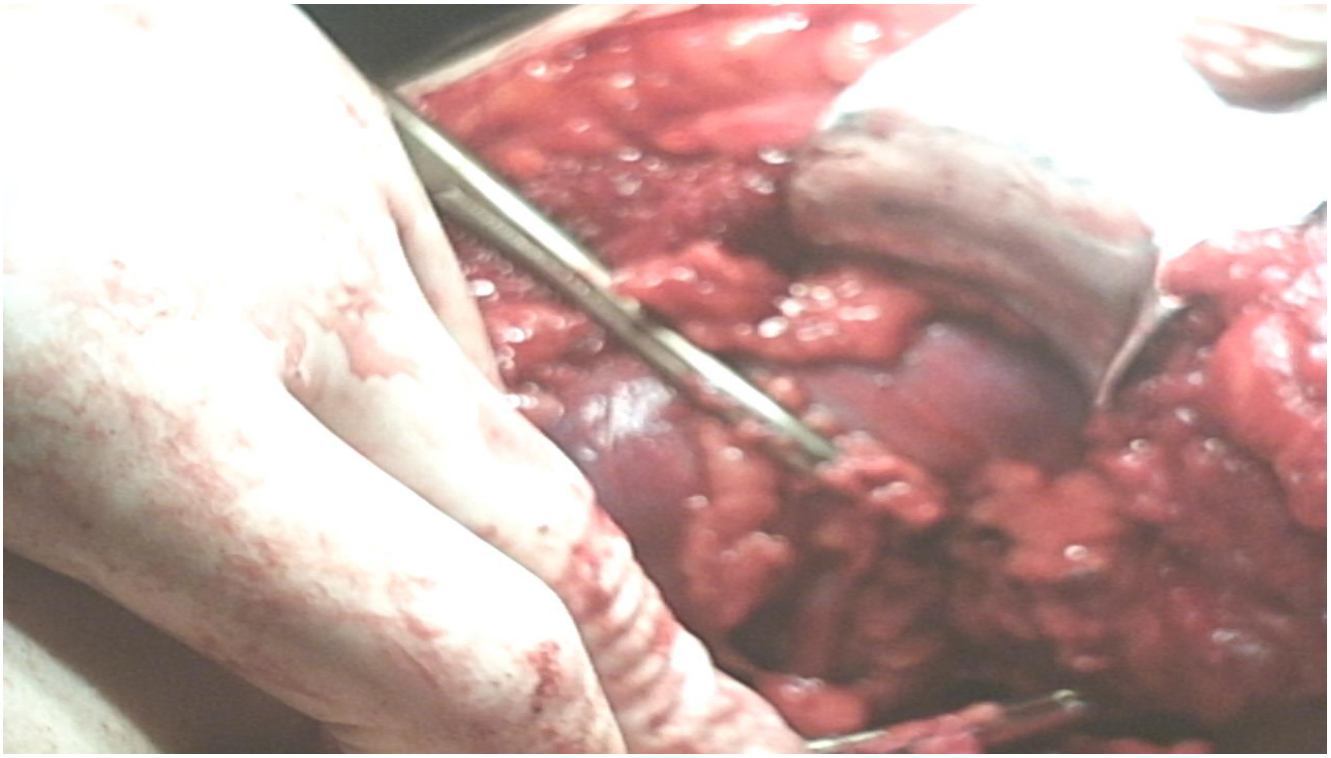


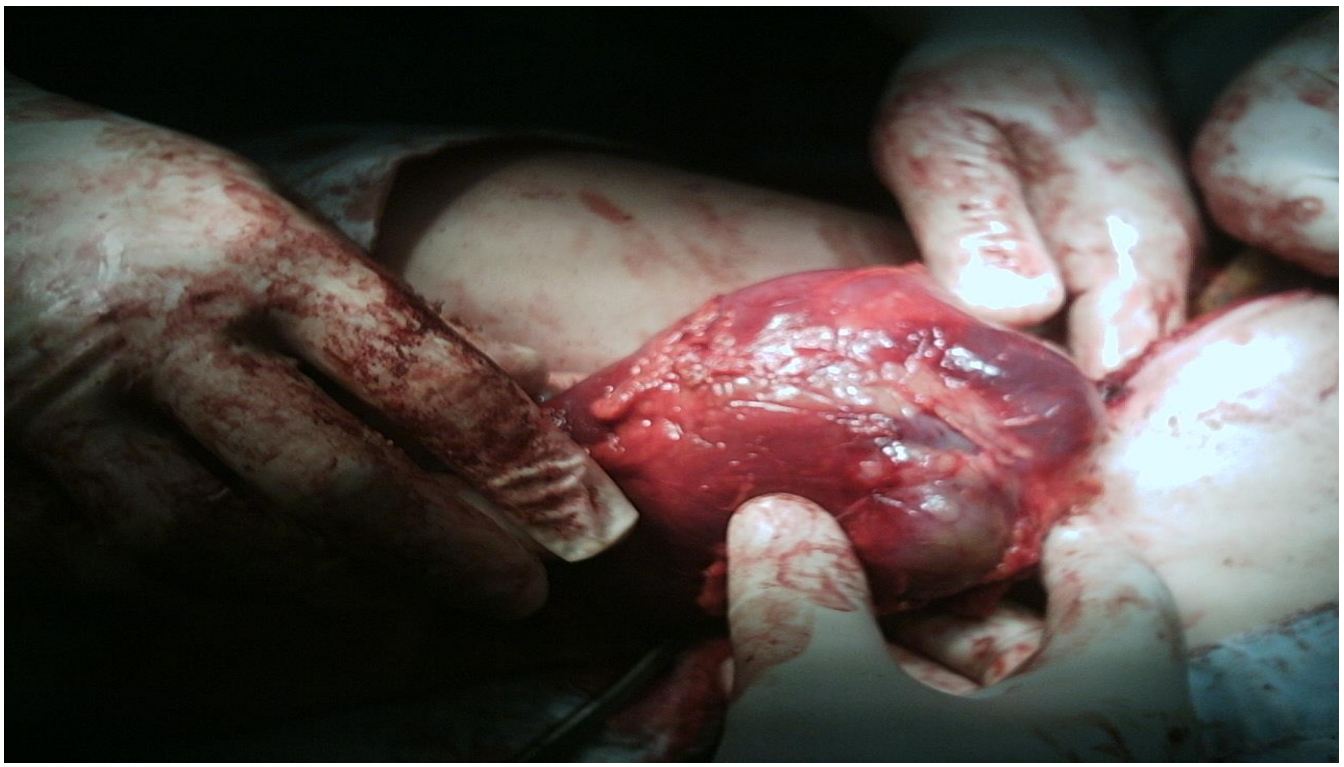
IVU

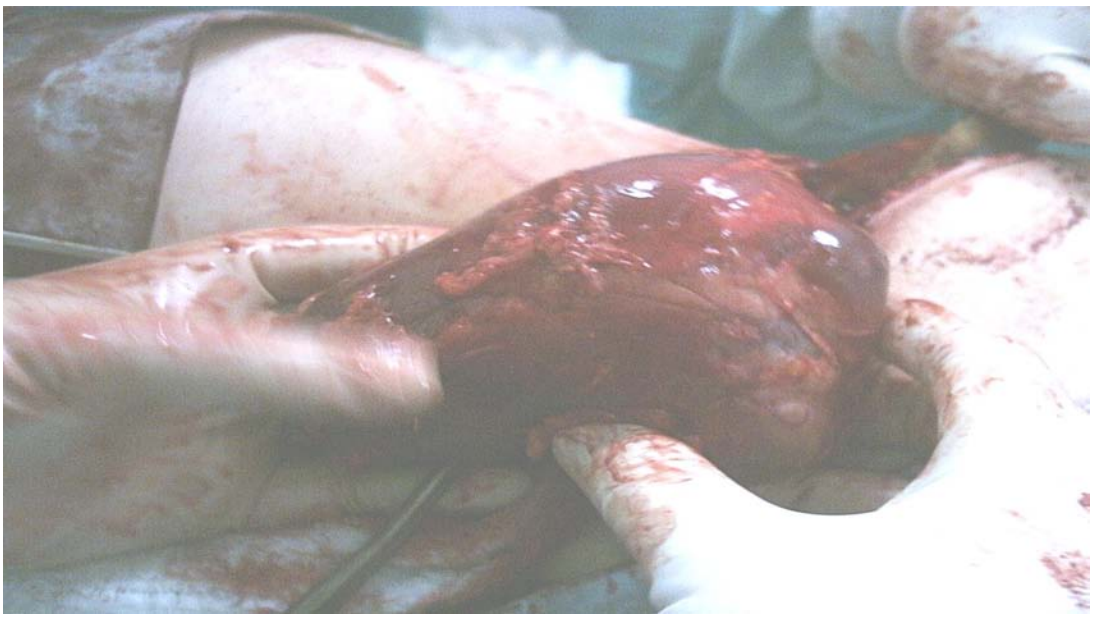
CT of the right kidney; Radiologist`s coment: Very large renal mas lesion that ocupies about upper two-thirds of right kidney (figure….)

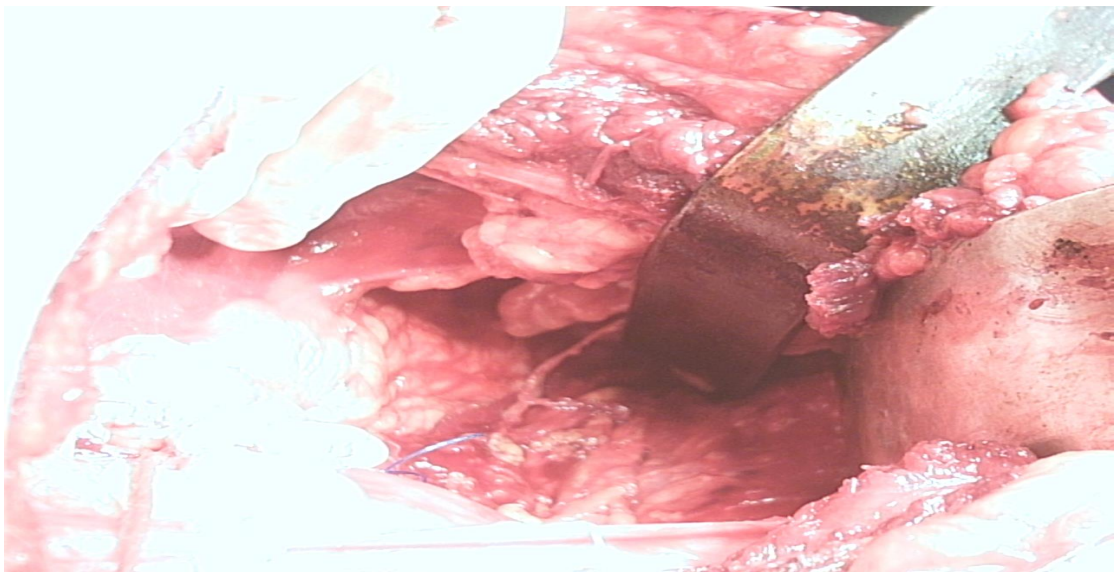


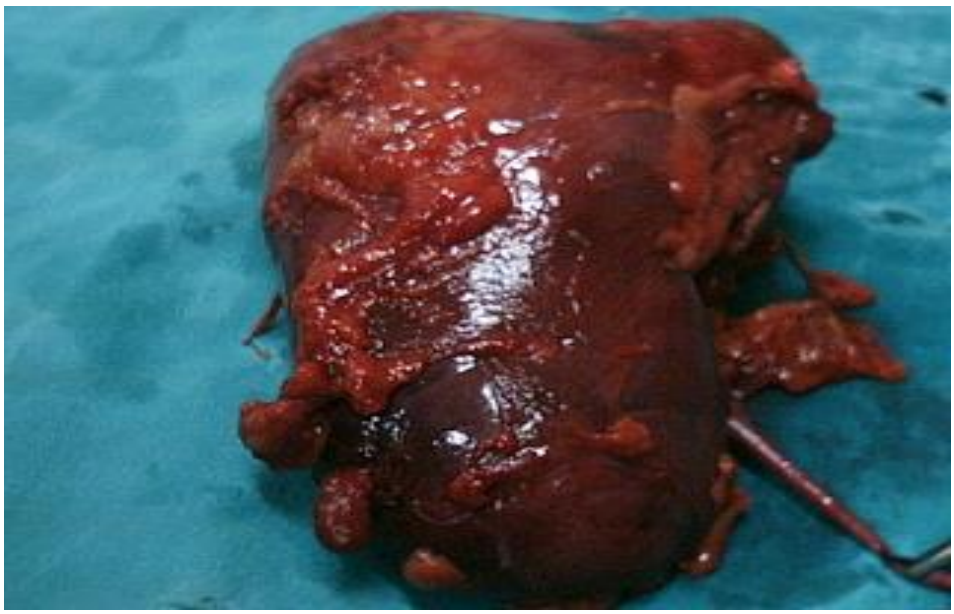
Surgical intervention: Right nephrectomy Surgical finding: there is an a large cystic formation that incorporate upper pole And middel area of the right kidney with thick and calcified capsule filled with hemorrhagic fluid and mas of loose costs.











VI. Discussion

Diagnosis is mainly based on histopathological features such as a well-developed capsule, fibrous stromata, multiple epithelial lining septa. According to Bosniak the renal cysts can be classified into 5 types. A simple renal cyst grows up of renal parenchyma. The cyst is filled with fluid and can cause local tissue destruction as it enlarged. Many cysts cause no symptoms and are discovered accidentally during other assessment or autopsy. Although the exact cause is unknown, cysts are considered structural defect that occurs prenatally. Diagnosis of a simple renal cyst involves intravenous urography, echosonogarphy, diagnostic puncture, CT, MRI. Echosonogarphy is the most commonly applied method because it reveals some features of cysts of suggesting malignancy: irregular walls, internal echoes inside the walls and the cysts, lack of characteristic potentiation of ultrasound beam (F).This indicate diagnostic punction and analysis cyst contents. If the aspirate is bloody there is (Tomas[1] 2010) a 28 -5o % chance of malignancy.

VII. Conclusion

The characteristic findings were thick and irregular wall and heterogeneous contents of the cystic mass. The cyst contained bloody fluid and a hemorrhagic degenerating mass. Pathohistological examination showed evidence of malignant hemorrhagic renal cyst. Which is treated by surgical intervention and usually nephroctomy.

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Airgun Pellet in Soft Tissue, Extra-Articular, May Create Long-Term Joint Morbidity: Case Report and Literature Review

By Dr. Mohammad Bukhetan Alharbi
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Abstract- *Introduction:* Pellet gunshot injuries occur quite frequently, especially among teenagers. Although conservative approaches to treatment are broadly accepted, such measures should account for any potential ramifications for the surrounding organs or other structures. Migration, infection, and limitation of proper functioning are hazards that should be weighed when evaluating the need for further steps.

Case presentation: We report the case of a 25-year-old male, presented to our emergency department a few hours after incurring an airgun shot in the region of his right knee. Clinical examinations and a radiological assessment revealed the pellet to have struck in an extra-articular location, and indicated that the patient would be able to tolerate the injury with mild painkillers. However, after a few weeks the patient was experiencing limitations in joint movement, though the location of the pellet had not changed. This prompted major concern about the correct clinical pathway to follow in such cases – especially for patients who are athletes.

Keywords: *pellet, gunshot, extra articular, soft tissue, injury.*

GJMR-I Classification: *NLMC Code: WE312*

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Conclusion: Injury management for small pellet gunshots should not be as generalised as it is in the conservative approach. More individualised decision-making is required.

Keywords: pellet, gunshot, extra articular, soft tissue, injury.

I. Introduction

Management of foreign bodies secondary to a gunshot wound – especially those involving airgun pellets – are well accepted worldwide, particularly if asymptomatic. Symptomatic incidences require medical intervention.

Owing to the limited effects of airgun pellets on patients, many surgeons will not intervene as a general rule. However, this general rule may lead to patient dissatisfaction with the plan of care.

Other challenges, potentially including exposure of the managing team to legal action, may be encountered if loss or limitation of function of some organs is incurred as a secondary complication of inflammation, migration, or fibrosis of nearby structures.

II. Case Presentation

A 25-year-old male was presented to our emergency department after trauma had been inflicted to the lateral side of the patient's right knee. This was caused by an airgun pellet fired from a distance of 30 metres a few hours prior to presentation, with an entry wound only.

The general clinical examination was unremarkable. The local examination showed a small entry wound from the pellet, with no exit wound. There were no signs of underlying haematoma, significant skin loss, active oozing, or limitation of knee joint movement; the pellet was not palpable; and the patient was able to move his limb and his knee joint, with some pain at the injury site. An X-ray showed the pellet, in one complete piece, on the lateral side of the right knee joint (extra-articular), and showed no fracture, neurovascular injury, or other complications. The patient's wound was irrigated and cleaned, prophylactic antibiotics were given and tetanus immunoglobulin was administered. The patient was then discharged with painkillers and standard instructions.

This patient presented to the outpatient clinic after two weeks with some movement limitation of the right knee joint, caused by mild to moderate pain. A CT scan showed the pellet in the same location on the lateral side of the knee joint, extra-articular. There were no signs of inflammatory reaction around the pellet. The patient was demanding removal of the pellet.

This demand was taken under consideration by the medical team, bearing in mind legal action that might arise as a result of patient dissatisfaction.

III. Discussion

Approximately two- to 2.5-million non-powder firearms are sold annually, and approximately 12.9 people per population of 100,000 are treated each year for injuries that result from such weapons in hospital emergency departments across the United States(1). Airguns are non-powder firearms that use compressed air or another form of compressed gas to propel a projectile such as a pellet.

They are widely regarded more as toys than as tools or weapons. Each year, more than 30,000 air weapon injuries are reported in the United States(2).

The spectrum of airgun injuries ranges from local skin damage to severe chest, abdominal, cerebral, and vascular injury. Soft-tissue injuries are most common, but injuries to the head, chest, neck, and

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abdomen are not infrequent. Airgun injuries can be disabling or even fatal. Shaw and Galbraith reported two deaths from penetrating cranial injuries(1).

The spectrum of air gun injuries ranges from local skin injury to severe chest, abdomen, cerebral, and vascular injury. Soft tissue injuries are the most common type of injury, but injuries to head, chest, neck, and abdomen were not infrequent, either. 6 Air gun injuries can cause disabling and fatal injuries. Shaw and Galbraith7 reported 2 deaths from penetrating cranial injuries. Air guns, modern or traditional models, are powerful weapons that are capable of causing serious or life threatening injuries, although modern ones are low powered due to safety concerns and legal restrictions. The critical velocity required for penetration of human skin by an air rifle pellet is around 125 feet per secondto 230ft/s (38 miles per second to 70m/s). A high-energy missile can be defined as an object travelling at a speed in excess of 2,000ft/s. Low-energy missile injuries occur at velocities below 1,500ft/s(3).

Direct effects on tissues, such as laceration and crushing, occur within the missile tract, rather than occurring as effects resultant from temporary cavitation. Airgun injuries may not always be immediately apparent. Patients may be unaware of having been shot, and the entry wound is often very small: thus, serious injuries may be missed completely(4).

People who are unclear in their management plan will require the coordination of multiple surgical disciplines in order to optimise the prospective functional and aesthetic consequences(5). Definitive management of patients with airgun wounds remains controversial, in terms of the reconstruction of bone and soft-tissue defects(6).

Most low-velocity gunshot wounds may be safely treated non-operatively, with simple local wound care (superficial irrigation and careful cleaning followed by a dressing, with or without antibiotics) and outpatient management(7). These 'minor wounds' include low-energy uncontaminated injuries of the skin, subcutaneous tissue, and muscle, and also fractures that do not require operative stabilization. Tetanus prophylaxis with a reinforcing booster of 0.5mL of tetanus toxoid is indicated for all gunshot wound patients who are not completely immunised (fewer than three immunisations) or who have uncertain immunisation histories(8).

Many airgun pellets are made of lead, which creates major safety concerns. As there is no level of lead exposure that is currently considered safe, the effects of an airgun wound on blood lead levels and on related symptoms are a serious consideration, even when there are few fragments, the wound is extra-articular, or the existing blood lead levels are low(9).

The literature contains few case reports of patients who have presented clinical signs of lead poisoning caused by airgun wounds. Blood lead levels are not routinely monitored, but the few studies that have been proposed to investigate it have shown increases in blood lead levels(10-13).

There are clinical manifestations within a number of systems. These include anaemia, basophilic stippling, and porphyria within the haematological system(14); anorexia, vomiting, constipation, abdominal pain, and cramps within the digestive system; arterial hypertension within the cardiovascular system; and peripheral neuropathy or encephalopathy within the neurological system. Complications such as these may lead to death (15, 16).

IV. Conclusion

At present, clinical pathways do not adequately accommodate the short- and long-term consequences of trauma inflicted by airgun pellets. The lack of research conducted in this area to date may result in patients receiving suboptimal care, and may expose managing teams to complaints from patients.

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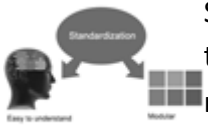

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3. Submission of Manuscripts,

4. Manuscript's Category,

5. Structure and Format of Manuscript,

6. After Acceptance.

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- Exact spelling, clearness of sentences and phrases, and appropriate reporting of quantities (proper units, important statistics) are just as significant in an abstract as they are anywhere else

Introduction:

The **Introduction** should "introduce" the manuscript. The reviewer should be presented with sufficient background information to be capable to comprehend and calculate the purpose of your study without having to submit to other works. The basis for the study should be offered. Give most important references but shun difficult to make a comprehensive appraisal of the topic. In the introduction, describe the problem visibly. If the problem is not acknowledged in a logical, reasonable way, the reviewer will have no attention in your result. Speak in common terms about techniques used to explain the problem, if needed, but do not present any particulars about the protocols here. Following approach can create a valuable beginning:

- Explain the value (significance) of the study
- Shield the model - why did you employ this particular system or method? What is its compensation? You strength remark on its appropriateness from a abstract point of vision as well as point out sensible reasons for using it.
- Present a justification. Status your particular theory (es) or aim(s), and describe the logic that led you to choose them.
- Very for a short time explain the tentative propose and how it skilled the declared objectives.

Approach:

- Use past tense except for when referring to recognized facts. After all, the manuscript will be submitted after the entire job is done.
- Sort out your thoughts; manufacture one key point with every section. If you make the four points listed above, you will need a least of four paragraphs.

- Present surroundings information only as desirable in order hold up a situation. The reviewer does not desire to read the whole thing you know about a topic.
- Shape the theory/purpose specifically - do not take a broad view.
- As always, give awareness to spelling, simplicity and correctness of sentences and phrases.

Procedures (Methods and Materials):

This part is supposed to be the easiest to carve if you have good skills. A sound written Procedures segment allows a capable scientist to replacement your results. Present precise information about your supplies. The suppliers and clarity of reagents can be helpful bits of information. Present methods in sequential order but linked methodologies can be grouped as a segment. Be concise when relating the protocols. Attempt for the least amount of information that would permit another capable scientist to spare your outcome but be cautious that vital information is integrated. The use of subheadings is suggested and ought to be synchronized with the results section. When a technique is used that has been well described in another object, mention the specific item describing a way but draw the basic principle while stating the situation. The purpose is to text all particular resources and broad procedures, so that another person may use some or all of the methods in one more study or referee the scientific value of your work. It is not to be a step by step report of the whole thing you did, nor is a methods section a set of orders.

Materials:

- Explain materials individually only if the study is so complex that it saves liberty this way.
- Embrace particular materials, and any tools or provisions that are not frequently found in laboratories.
- Do not take in frequently found.
- If use of a definite type of tools.
- Materials may be reported in a part section or else they may be recognized along with your measures.

Methods:

- Report the method (not particulars of each process that engaged the same methodology)
- Describe the method entirely
- To be succinct, present methods under headings dedicated to specific dealings or groups of measures
- Simplify - details how procedures were completed not how they were exclusively performed on a particular day.
- If well known procedures were used, account the procedure by name, possibly with reference, and that's all.

Approach:

- It is embarrassed or not possible to use vigorous voice when documenting methods with no using first person, which would focus the reviewer's interest on the researcher rather than the job. As a result when script up the methods most authors use third person passive voice.
- Use standard style in this and in every other part of the paper - avoid familiar lists, and use full sentences.

What to keep away from

- Resources and methods are not a set of information.
- Skip all descriptive information and surroundings - save it for the argument.
- Leave out information that is immaterial to a third party.

Results:

The principle of a results segment is to present and demonstrate your conclusion. Create this part a entirely objective details of the outcome, and save all understanding for the discussion.

The page length of this segment is set by the sum and types of data to be reported. Carry on to be to the point, by means of statistics and tables, if suitable, to present consequences most efficiently.You must obviously differentiate material that would usually be incorporated in a study editorial from any unprocessed data or additional appendix matter that would not be available. In fact, such matter should not be submitted at all except requested by the instructor.

Content

- Sum up your conclusion in text and demonstrate them, if suitable, with figures and tables.
- In manuscript, explain each of your consequences, point the reader to remarks that are most appropriate.
- Present a background, such as by describing the question that was addressed by creation an exacting study.
- Explain results of control experiments and comprise remarks that are not accessible in a prescribed figure or table, if appropriate.
- Examine your data, then prepare the analyzed (transformed) data in the form of a figure (graph), table, or in manuscript form.

What to stay away from

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- Do not present the similar data more than once.
- Manuscript should complement any figures or tables, not duplicate the identical information.
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Approach

- As forever, use past tense when you submit to your results, and put the whole thing in a reasonable order.
- Put figures and tables, appropriately numbered, in order at the end of the report
- If you desire, you may place your figures and tables properly within the text of your results part.

Figures and tables

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- Despite of position, each figure must be numbered one after the other and complete with subtitle
- In spite of position, each table must be titled, numbered one after the other and complete with heading
- All figure and table must be adequately complete that it could situate on its own, divide from text

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- Make a decision if each premise is supported, discarded, or if you cannot make a conclusion with assurance. Do not just dismiss a study or part of a study as "uncertain."
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- You may propose future guidelines, such as how the experiment might be personalized to accomplish a new idea.
- Give details all of your remarks as much as possible, focus on mechanisms.
- Make a decision if the tentative design sufficiently addressed the theory, and whether or not it was correctly restricted.
- Try to present substitute explanations if sensible alternatives be present.
- One research will not counter an overall question, so maintain the large picture in mind, where do you go next? The best studies unlock new avenues of study. What questions remain?
- Recommendations for detailed papers will offer supplementary suggestions.

Approach:

- When you refer to information, differentiate data generated by your own studies from available information
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Methods and Procedures	Clear and to the point with well arranged paragraph, precision and accuracy of facts and figures, well organized subheads	Difficult to comprehend with embarrassed text, too much explanation but completed	Incorrect and unorganized structure with hazy meaning
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Discussion	Well organized, meaningful specification, sound conclusion, logical and concise explanation, highly structured paragraph reference cited	Wordy, unclear conclusion, spurious	Conclusion is not cited, unorganized, difficult to comprehend
References	Complete and correct format, well organized	Beside the point, Incomplete	Wrong format and structuring

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