

## **A Case of Pituitary Apoplexy in Third Trimester of Pregnancy**

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### **I. Summary:-**

Pituitary Apoplexy Is A Rare Event In Iiird Trimester. A 34 Year Female Presented With Headache, Sudden Onset Blurring Of Vision With Diplopia, Ptosis, During The Third Trimester Of Pregnancy. Mri Demonstrated Pituitary Apoplexy With Chiasmal Compression And Left Optic Nerve Compression. Bilateral Internal Carotid Artery (Ica) Is Laterally Displaced. On Right Side, Lesion Is Encasing Right Internal Carotid Artery (Ica) Circumferentially And Extending Into Right Cavernous Sinus Upto Right Orbital Apex. After Giving Intravenous Beclomethasone For Lung Maturation Of Foetus, Sublabial (Oro-Rhinoseptal) Transsphenoidal Pituitary Tumour Decompression Was Done. Pre-Operatively And Intraoperatively, Uterine Relaxant Was Given. During Pituitary Surgery, Foetal Heart Rate Starts Decreasing, So Emergency Ceasarean Section Was Done And 1 Live Foetus Was Delivered.

#### **Learning Points:**

A Multidisciplinary Treatment Modality Can Minimize Morbidity And Mortality.  
There Are No Clear Guidelines On The Management Of Pituitary In Iiird Trimester  
Pituitary Apoplexy Has An Unpredictable Course  
Presence /Absence Of Neurologic Signs Determines Need For Early Surgery.

### **II. Background:-**

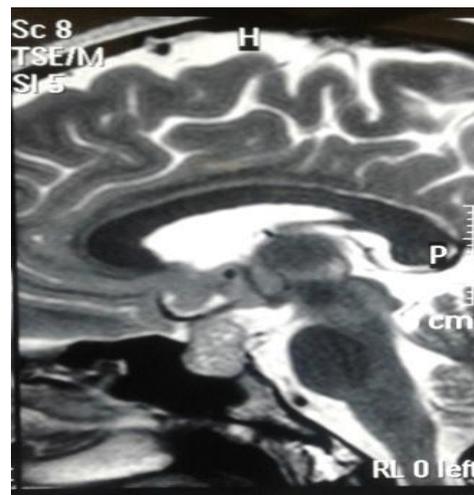
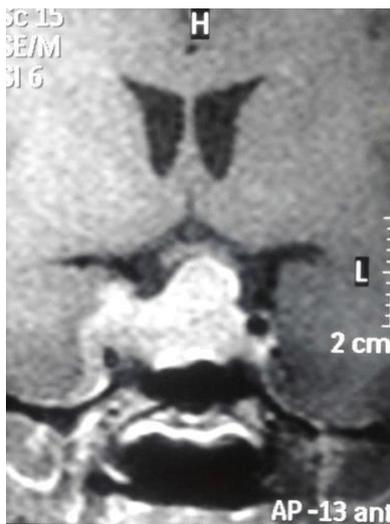
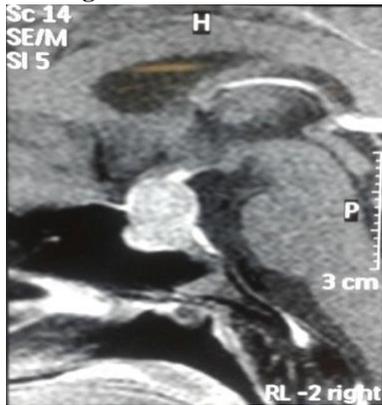
Pituitary Apoplexy Is A Life Threatening Event If Not Recognised Early.  
Pituitary Apoplexy Results From Haemorrhagic Infarction Of A Preexisting Pituitary Adenoma Or Within A Physiologically Enlarged Gland.  
Rapid Growth Of Pituitary Tumour In Pregnancy Is Well Seen  
Pituitary Apoplexy Is Rare In Pregnancy  
Our Case Report Describes A Woman Who Presented With Pituitary Apoplexy In Iiird Trimester

### **III. Case Presentation:-**

This 34 Year Female Presented With Headache For Last 14 Days, Sudden Onset Visual Disturbance, At 33 Week Of Pregnancy. She Consulted Her Neurophysician. Urgent Mri Was Done With Hormonal Assessment And Neurosurgical Review Was Done.

Her Hormonal Assessment Revealed Raised Cortisol Level (659nmol/Lt-Normal Reference Range-171-536) And Raised Prolactin >470ng/ML- Normal Reference Range-6.0-29.9)), Raising The Possibility Of A Prolactinomawith Chiasmal Compression.

**Investigation:- .**



Mri Demonstrated, Homogenous Enhancing, Figure Of 8 Shaped, Sellar –Suprasellar Mass 14.0x21.0x17.5mm Iso On T1, Mildly Hyper On T2. On T1 Post Contrast, Moderate Enhancement With Features Of Mild Haemorrhagic Changes. Mild Compression On Optic Chiasm And Left Optic Nerve. Bilateral Internal Carotid Artery Is Lateral Displaced. On Right Side, Lesion Is Encasing The Right Ica Internal Carotid Artery Circumferentially And Extending Into Right Cavernous Sinus.

On Examination, Bilateral Vision Was Decreased With Left More Decreased Than Right (4 Feet Finger Counting), Right Medial Rotation Of Eyeball Decreased, Right Ptosis And Anisocoria (3rd Nerve Palsy).

#### IV. Treatment

Preoperatively Intravenous Beclomethasone For Lung Maturation Of Foetus Was Given With Uterine Relaxant. Patient Was Taken Up For Sublabial Trans Sphenoidal Pituitary Tumour Decompression Under General Anaesthesia.

Intra-Operatively, Foetal Heart Rate Decreased, Thus Emergency Caesarean Section Was Performed, And One Live Foetus Was Delivered.

Outcome And Follow Up:-

Post-Operatively, Patient Was Gradually Weaned Off From Ventilator.



Post Op Ct Scan



Post-Op Ct Scan

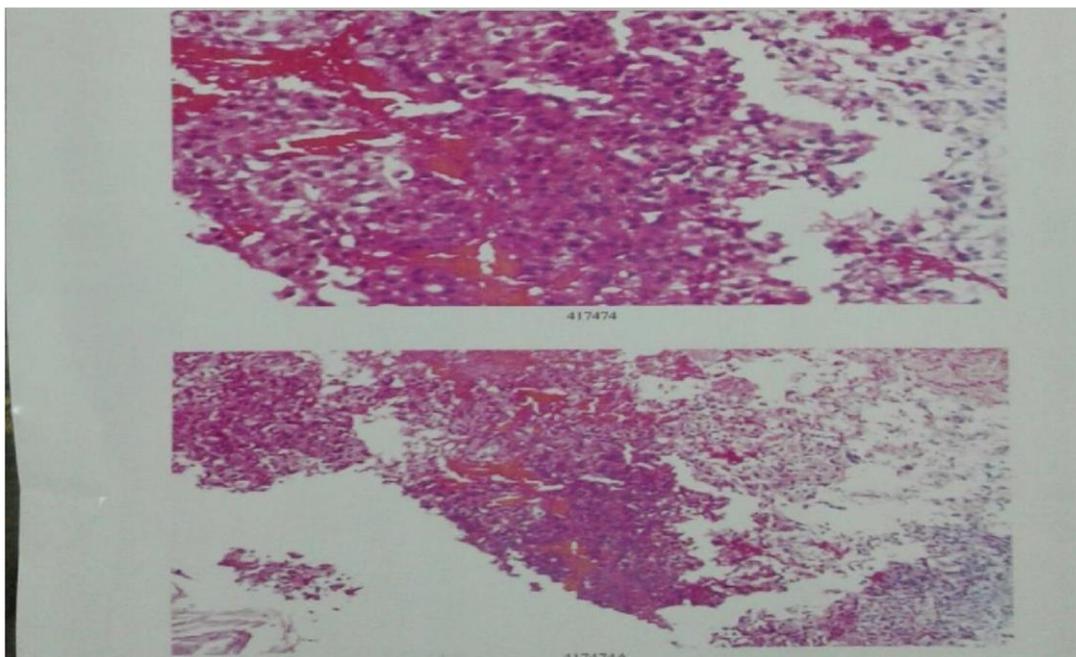


Intra Op C-Arm Image

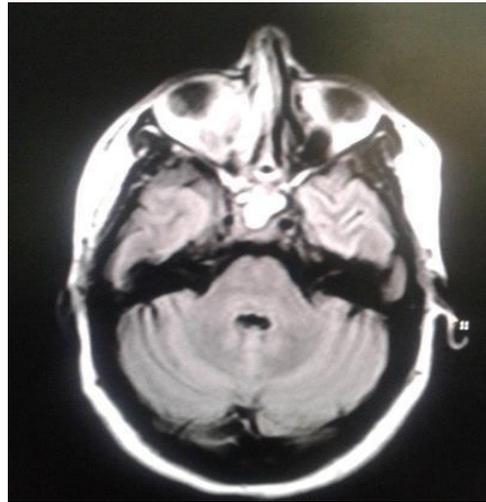
Post-Op Ct Scan-A Bony Defect Is Seen In Floor Of Sella With few Air Locules Suggestive Of Post-Operative Changes. Residual Soft Tissue And Post-Operative Edema Is Seen Which Is Invading Into Right Cavernous Sinus

Her Vision And 3<sup>rd</sup> Nerve Palsy Improved After Surgery. There Was No Csf Leak Postoperatively At 2 Weeks Of Surgery, Repeat Brain Mri Was Done, Which Revealed No Obvious Compression On Chiasm.

(Histopathology From Transsphenoidal Resection Of Pituitary Adenoma Complicated By Intratumoral Bleed. :- Low Power: Prolactinoma With Evidence Of Haemorrhage)



At 1 Month Of Surgery, Both Mother And Baby Are Living A Healthy Life With No Neurological Deficit



Post-Operative Mri Scan- Changes Are Seen In Sphenoid Sinuses At T2w/Flair Mixed Signal Intensities. Well-Defined Sellar Lesion Of Size 10.2, 15.2, 15.6 Mm Is Seen. It Is Seen As Iso Intense Signals On T2w/T1w Images. No Compression On Optic Chiasm And Internal Carotid Arteries Is Seen.( Mri- 1 Month After Surgery)

#### **V. Discussion:-**

Pituitary Apoplexy Is An Acute Clinical Syndrome, Characterized By An Array Of Presenting Features Including Sudden Onset Headache, Nausea And Vomiting, Meningism And Sometimes Altered Consciousness (5, 6). Diplopia, Blurred Vision, Restricted Field Of Vision Is Also Seen (5, 6) Subclinical Apoplexy Is More Common. Apoplexy Typically Occurs In Macroadenomas. There Is No Subtype Of Adenoma. Apoplexy Occurs Spontaneously In Most Patients (4, 5, And 6). Various Risk Factors Of Apoplexy Include Hypertension, Hypotension, Dynamic Testing Of Pituitary Function, Sudden Head Trauma, Gonadotrophin Releasing Hormone Analogue, Dopamine Agonist Therapy And Anticoagulant (4, 5, 6). Clinical Manifestation Of Pituitary Apoplexy Are Related Predominantly Due To Compression Of Neural Structures Secondary To Sudden Upward And Right Lateral Extension, Meningeal Irritation And Features Similar To Subarachnoid Haemorrhage, Due To Spread Of Blood To Subarachnoid Space. Hypopituitarism Is Secondary To Compression Of The Gland (4). Great Majority Of Apoplexy Patient Do Not Know About Their Preexisting Pituitary Disease (4, 5, And 6). Patient Needs Early And Immediate Corticosteroid Replacement Because Of Partial Or Complete Hypopituitarism (4, 5, And 6). Pituitary Apoplexy Is Rare In Pregnancy With only 15 Cases Published In The Literature (12 Cases With Adenoma, Two With Lymphocytic Hypophysitis And 1 Normal Pituitary) (7). Pituitary Gland Increases In Size By Two To Three Fold In Pregnancy (8). This Is Due To Physiological Adaptation Due To Lacto Troph Hyperplasia Stimulated By High Oestrogen Level. It Resolves 6 Month After Delivery (1, 2). Initial Treatment Of Apoplexy Includes Immediate Corticosteroid Replacement, With Carefull Monitoring Of Fluid And Electtrolytes. Transsphenoidal Surgery Is Indicated In Patients With Visual Deterioration And Decreased Conscious Level (3, 4, And 6). Historically, Surgeons Are In The Belief Of Urgent Surgical Intervention. Early Surgery Performed By Experienced Neurosurgeon Leading To Low Morbidity And Mortality, With Early Improvement In Visual Deterioration, Especially In The Cases When Surgery Is Performed Within A Week Of Visual Deterioration (3, 6). Early Pituitary Surgery Lead To Preservation Of Pituitary Function. In Various Studies, Question Were Raised Whether The Surgical Risk Of Cerebrospinal Fluid Leak, Permanent Diabetes Insipidus And Removal Of Normal Anterior Pituitary In Patients With Mild Visual Deterioration Is Well Justified(3). Daily Visual Assessment Is Important And Surgery Is Indicated If There Is No Improvement (3) .Treatment With Dopamine Agonist As First Line Therapy Is Considered As Less Risk To The Mother And Foetus Than Surgery, In Pregnant Female With Prolactinoma And Non Apoplectic Tumor Growth (1, 2) Our Case Declares That Multispeciality Approach Involve Neurosurgeon,Obstetrician, Anaesthesiologist, Paediatrician Can Minimize Morbidity And Mortality In 33 Week Pregnant Apoplectic

Patient Early Decompression Is Safe Even In Late Third Trimester Preserving Vision And Anterior Pituitary And Foetus.

Declaration of Interest:-

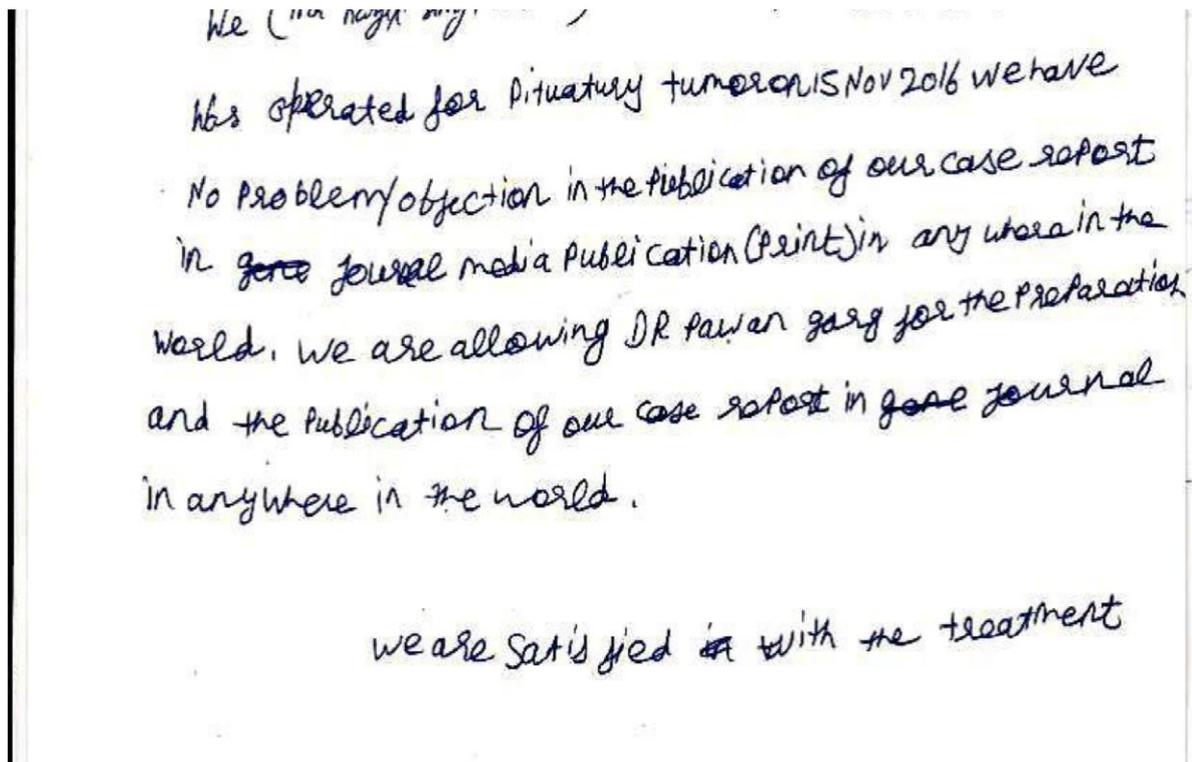
The Author S Declares That There Is No Conflict Of Interest That Could Be Perceived As Prejudicing The Impartiality Of The Research Reported.

## VI. Finding

This Research Did Not Receive Any Grant From Any Funding Agency In The Public, Commercial, Or Not For Profit Sector.

Patient Consent:-

Written Informed Consent From The Patient



हे (माँ) को सर्जरी  
होस गयी है पिट्यूटरी ट्यूमर का 15 नवंबर 2016 को हमने  
को कोई समस्या/objection in the publication of our case report  
in ~~any~~ journal media publication (print) in any where in the  
world. we are allowing Dr Pawan garg for the preparation  
and the publication of our case report in ~~any~~ journal  
in anywhere in the world.  
  
we are satisfied ~~is~~ with the treatment

Author Contribution Statement:-

Dr. Pawan Garg Was Responsible For Drafting And Revision Of The Manuscript.

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