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NASG – As an Antepartum Lifesaviour

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***Abstract**: Obstetric Hemorrhage (OH) Is The Leading Cause Of Maternal Mortality, Responsible For 25–50% Of Maternal Deaths [1]. Uncontrolled Hemorrhage Can Lead To Irreversible Hypovolemic Shock, Multiple Organ Dysfunction Syndrome, And Mortality. NASG Has Been Extensively Used In Patients With PPH But There Are No Reports For Its Use In Antepartum Period. Here We Report A Unique Case Of A Maternal Near Miss Who Survived Solely Because Of The Timely Use Of NASG.*

A 23 Year Old Primigravida Was Rushed To The ED In A State Of Shock, Gasping, No Pulse & BP Recordable With A History Of Sudden Onset Acute Pain Abdomen, Vomiting & Fainting Attack At Home 2 Hrs Ago. She Was 5 Months Pregnant. On Examination – She Was Cold & Clammy, Pale, Pulse & BP Not Recordable, Delirious And Not Following Verbal Commands. Abdominal Examination Revealed Tense-Tender Distension With Uterine Size Not Appreciable. A Provisional Diagnosis Of Ruptured Ectopic Pregnancy With Massive Intraperitoneal Hemorrhage Was Made. Simultaneous Resuscitative Efforts Were Started. Efforts Were Made To Secure An IV Line But Because Of The Shock We And Even The Anesthesiologist Were Unable To Insert An IV Cannula. We Nearly Thought We Were Going To Lose Her Then The Idea Of Using NASG For Stabilizing Her And Then Retry To Secure The IV Line Struck Us. Quickly NASG Was Brought And Applied To The Patient. To Our Surprise Patient Started Regaining Consciousness, Her Pulse Was Recordable On The Monitor And We Finally Succeeded In Establishing A Secure IV Line. Without Wasting Further Time She Was Shifted To Operation Theatre After Blood Samples Were Obtained For Routine Analysis And Grouping & Cross-Matching, Blood Bank Notified For Massive Transfusion Requirement. On Operation Table Under GA Only The Abdominal Segments Of The Garment (4,3,2) Were Removed To Provide Access For Surgery. Abdomen Was Entered Through A Pfannensteil's Incision –There Was Massive Hemoperitoneum(=2500ml Of Nonclotting Blood & Few Blood Clots), Same Suctioned Out. We Quickly Searched For The Cause And Found That It Was A Right Sided Ruptured Non-Communicating Rudimentary Uterine Horn Which Was Profusely Bleeding With The Fetus Lying In Peritoneal Cavity & Placenta Insitu. Left Horn & Adnexa Were Normal. The Ruptured Horn With Placenta Was Excised After Clamp-Cut-Ligation Of The Base. The Vital Parameters Further Stabilized. Abdomen Closed Back After Achieving Complete Hemostasis, Instruments & Mop Counts Check. NASG Abdominal Segments Were Reapplied Soon After Completion Of The Procedure. Intra-Operatively 5units Of PRBC, 4 FFP & 4 Rdps Were Transfused. Slowly Our Patients' Condition Showed Signs Of Improvement With Stabilizing Vital Parameters, Decreased Requirement Of Vasopressor Support & Urine Output Improved. She Was Kept In ICU For 24 Hrs. NASG Was Removed After 12 Hrs In A Proper Manner Once The Criteria Were Met. Further Recovery Was Uneventful & She Was Discharged On D6. After 1&3 Months Follow Up Visits She Is Healthy With No Complaints & Has Normal Periods.

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I. Introduction :

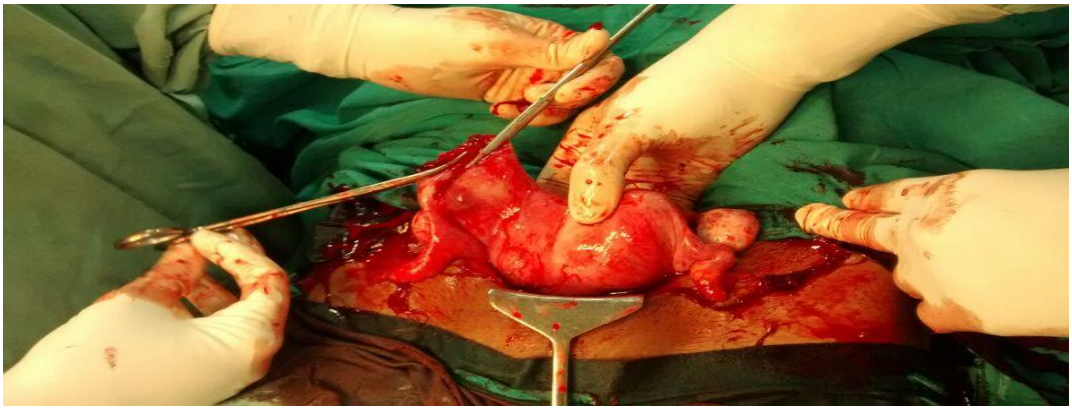
Obstetric Hemorrhage (OH) Is The Leading Cause Of Maternal Mortality, Responsible For 25–50% Of Maternal Deaths [1]. Uncontrolled Hemorrhage Can Lead To Irreversible Hypovolemic Shock, Multiple Organ Dysfunction Syndrome, And Mortality. The Non-Pneumatic Anti-Shock Garment (NASG) Is A First-Aid, Lower-Body Compression Device Made From Neoprene And Velcro. NASG May Assist Women To Survive Delays In Transport And Therefore Receive Definitive Treatment. The NASG, Made Of Neoprene And Velcrotm, Compresses The Lower Body With Nine Articulated Segments Closed Tightly Around The Legs, Pelvis, And Abdomen. A Foam Ball In The Abdominal Segment Increases Compression. Circumferential Compression Reduces Vascular Volume Under The Compressed Areas, While Expanding The Central Circulation By Increasing Preload, Peripheral Resistance, And Cardiac Output. Tamponade Of Abdominal, Pelvic, And Uterine Vessels Reduces Blood Loss [6–7].

The NASG Is Ideal For OH For A Number Of Reasons. The Abdominal Panel Stretches So That External Uterine Massage Or Compression Can Be Accomplished. The Design Permits Perineal Access For Performing Vaginal Procedures (Suturing Lacerations, Manual Exploration Of The Uterus And/Or Bimanual

Compression) Or For Inserting Urinary Catheters. Surgery Can Be Performed By Simply Opening The Abdominal Segment Immediately Prior To Beginning Surgery, And Then Replacing This Segment When Surgery Is Completed; Removal Of The Device For Surgery Is Not Necessary. The Majority Of The Pressure Exerted By The Device Is In The Abdomen, Retroperitoneum, And Pelvis, Reducing Blood Flow In OH Immediately Upon Application [5,7–10]. The NASG Is Very Simple To Apply And Training In Application Is Rapid.

II. The Discussion:

The Case Report Highlights The Importance Of Using NASG In A Critical Patient Of Ruptured Cornual Ectopic Pregnancy With Shock. A Real Obstetric Near Miss Mortality Was Saved With Just Timely Application Of NASG. The Pressure Exerted By The Device In The Abdomen, Retroperitoneum, And Pelvis, Reduced Blood Flow In The Pelvis Immediately Upon Application, And Reduced Vascular Volume Under The Compressed Areas, While Allowing More Blood To Perfuse The Vital Organs. This Was The Key Step Which Helped Us In Getting An IV Access Without Which Resuscitation Would Be Impossible. We Recommend That In Selected Antepartum Cases Of OH Also NASG Is A Boon And Should Be Liberally Used.



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