

Obstetric Training Symposia and Workshops

產科技能研討會暨工作坊

2020.7.24-26



濕疹知多D
ATOPIC DERMATITIS

澳門大學
University Hospital

陳恩迪 醫師 DR. CHAN SUN, ALICIA MACAU UNIVERSITY HOSPITAL OF SCIENCE AND TECHNOLOGY

SPEAKER: Dr. Chan Si-Un, Alicia 陳恩迪 醫師

- 澳門科大醫學院皮膚科醫生
- 澳華哮喘協會會長
- 澳門哮喘病生協會副主席
- 澳門皮膚病專科醫學會理事兼幹事
- 國際抗過敏學會理事
- 廣東省醫學會合作科社會醫藥衛生大講座委員會委員

澳門大學
University Hospital

目錄 CONTENTS

01 Case Study

02 What is "AD" ?

03 When to see Doctor ?

04 Homecare and Treatment

05 Q&A

01 Case Sharing [1]

01 Case Sharing [1]

Case No. 1

Case One: Skin Exam

How would you describe her skin exam?

- 10月大，幼女
- 其母親稱紅腫癢癢1月餘
- 發作時特別癢
- 平時用香露“恩恩”洗澡
- 偶見皮膚紅腫合併用藥前
- 最近增加了“潤潔”作高齡霜
- 每晚用特種嬰兒油塗面
- 有“濕性結晶”
- 間隔有“鼻共”鼻“哮喘”

01 Case Sharing [1]

Case No. 1

Case One: Skin Exam

Erythematous ill-defined plaques with overlying scale and erosions on her cheeks

01 Case Sharing [1]

Case No. 1

Case One, Question 1

What elements in the history are important to ask in this case?

- Does she scratch or rub her skin?
- Does the rash keep her awake at night?
- Which moisturizers are used and where?
- All of the above

01 Case Sharing [1]

Case No. 1

Case One, Question 1

Answer: d

What elements in the history are important to ask in this case?

- Does she scratch or rub her skin? (Provides information about associated pruritus, which will impact treatment)
- Does the rash keep her awake at night? (Provides information about severity, which will impact treatment)
- Which moisturizers are used and where? (May provide information about the distribution. Also, lack of using a moisturizer may be exacerbating the problem)
- All of the above

01 Case Sharing [1]

Case No. 1

Case One, Question 2

Answer: a

What is the most likely diagnosis given the history and skin exam findings?

- Atopic dermatitis
- Contact dermatitis (would expect history of contact with allergen and erythema with superimposed vesicles or bullae)
- Psoriasis (presents as erythematous plaques with an adherent silvery scale)
- Scabies (intensely pruritic papules, often with excoriations, burrows may be present)
- Seborrheic dermatitis (would expect erythematous patches and plaques with greasy, yellowish scale)

01 Case Sharing [1]

- 入案前用特，近數天面部紅腫
- 脫屑、癢、發癢
- 皮膚紅腫，夜間加重
- 部分紅腫，脫屑、發出黃色結晶
- 夜間抓癢，難以入睡。

02 What is Atopic Dermatitis?

02 What is Atopic Dermatitis?

濕疹
Ezema

02 What is Atopic Dermatitis?

What is Eczema

- Eczema is a general term, often used interchangeably with dermatitis.
- Eczema is a chronic, inflammatory skin condition that is characterised by
 - Dryness
 - Deep-seated itch
 - Redness and inflammation
 - Sometimes areas can be weepy or oozing

02 What is Atopic Dermatitis?

Incidence

- One of the most common skin disorders of childhood.
- The incidence of eczema has increased steadily in westernised countries, over the past 40 years
- It is believed that up to 1 in 4 children may be affected
- It affects around:
 - 30% of preschool-age children,
 - 15% of school-age children and
 - 9% of adolescents
- 80% of the children will have onset before the age of 1 year.

02 What is Atopic Dermatitis?

Name Confusion?

- The word 'atopy' comes from the Greek word meaning 'without place, unusual'. Described by Coca and Cooke in 1933
- Eczema has been historically thought of as an allergic disease
- Atopic Dermatitis (inflammation of the skin due to allergies)
- However, more recently it has been suggested that we should be dividing the condition of 'eczema' into 2 terms.

02 What is Atopic Dermatitis?

- Atopic - having allergic tendencies (extrinsic)
- Non atopic - not having allergic tendencies (intrinsic)

02 What is Atopic Dermatitis?

Pathogenesis

Etiology is multifactorial

- Clinical factors
- Molecular factors- Immunological factors
- Genetic link

02 What is Atopic Dermatitis?

Genetic link

- Inherited disorder, presumably autosomal dominant
- Often associated with either a family or a personal history of other 'allergic' conditions (e.g. asthma or allergic rhinitis)
- If a child has one parent with atopic eczema – 20%
- If both parents have (or had) atopic eczema – 50%

02 What is Atopic Dermatitis?

AD skin

02 What is Atopic Dermatitis?

Skin barrier affected by AD

02 What is Atopic Dermatitis?

內源性和外源性的皮膚屏障受損

02 What is Atopic Dermatitis?

5環境因素

- 食物: 海鮮、魚類、牛肉、雞蛋、雞蛋、牛奶、花生、堅果、芝麻、牛奶、蜂蜜、杏仁
- 藥物: 抗生素、止痛藥、止咳藥
- 感染: 細菌、病毒、真菌
- 物理因素、精神因素: 冷、熱、濕、乾、摩擦、精神緊張、壓力、過度疲勞
- 環境因素: 塵蟎、塵埃、花粉、寵物皮屑、氣味、化妝品、香水等

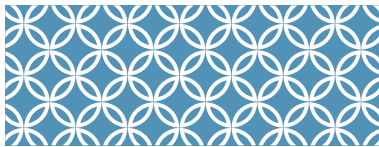
02 What is Atopic Dermatitis?

Why has the prevalence increased?

- The genes that predispose us to eczema has not changed, but our environment has
- One theory - we are exposing our skin to more soaps and surfactants such as bubble baths to wash babies
- Soap and surfactants shown to decrease the stratum corneum by 40%

02 What is Atopic Dermatitis?

- Normal pH of the skin is 5.5
- Exposure to soap and surfactants ↑ 7.5 or higher
- 50% increase in protease activity
- greater breakdown of the skin barrier
- Increase penetration of irritants and allergens.



嬰兒生長發育評估

科大醫院兒科 區志勳醫生

生長發育概念

生長：指身體各器官、系統的增長，是量的變化，是發育的物質基礎。
發育：指細胞、組織、器官功能上的分化及成熟，是質的變化。
生長是發育的物質基礎
發育成熟反應生長的變化

生長發育的規律

1. 生長發育的連續性和階段性；
2. 各系統器官發育的不平衡性；
3. 生長發育的順序性；
4. 生長發育的個體差異。



生長發育的連續性和階段性

生長發育是一個連續不斷的過程，但不同年齡的生長發育速度不同，呈現階段性。
生長發育有兩個高峰：嬰兒期和青春前期



各系統器官發育的不平衡性

神經系統發育較早，70%的大腦重量和結構發育在胎兒期和嬰兒期完成。
生殖系統發育較慢
淋巴系統從快到慢



生長發育的順序性

1. 從上到下
2. 從近到遠
3. 由粗到細
4. 由簡單到複雜
5. 由低級到高級

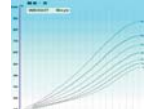


生長發育的順序性



生長發育的個體差異

由於受機體內、外因素的影響，嬰兒生長發育存在較大的個體差異，各有其自己的生長“軌跡”。



影響生長發育的因素

1. 遺傳
2. 營養
3. 性別
4. 疾病
5. 孕母狀況
6. 生活環境



體格生長發育評估指標

體重、身高、坐高、頭圍、胸圍、腹圍、上臂圍、齒門、牙齒



體重

1. 體重是身體器官、系統、體液總重量；
2. 體重是反映體格生長和營養狀況的重要指標；
3. 也是臨床計算補液量和給藥量的重要依據；
4. 通常4-8個月體重為出生體重兩倍，12個月是三倍。
5. 體重推算公式：
1—6月：體重 (kg) = 出生體重 (kg) + 月齡 X 0.7 (kg)
7—12月：體重 (kg) = 出生體重 (kg) + 6 X 0.7 (kg) + (月齡-6) X 0.4 (kg)

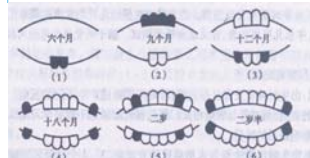
身高

1. 身高是指從頭頂到足底的全身長度，是頭部、脊柱及下肢長度的總和；
2. 身高是反映骨骼發育的重要指標；
3. 嬰兒多採用仰臥位測量，身高又稱為身長；
4. 新生兒出生平均身長50cm，6個月大概65cm，一週歲大概75cm。

頭圍

1. 頭圍反映腦與顱骨的發育；
2. 新生兒頭圍平均34cm，1歲大概46cm；
3. 頭圍過小：腦發育不全、頭小畸形；
4. 頭圍過大：腦積水、向後偏後遺症；

牙齒



感知發育

1. 視覺發育
2. 聽覺發育
3. 嗅覺和味覺發育
4. 皮膚感覺發育

視覺發育

- 視覺發育的關鍵期在3月—6月
新生兒：視覺最佳距離15—20cm；
2月：眼眼協調可視物體；
3-4月：喜歡看自己的手，追尋活動的人或物體；
4-5月：認識母親、奶瓶；
6-7月：目光可垂直移動；
8-9月：出現視深度感覺，能看小物體；
1-2歲：區別各種圖形。

聽覺發育

- 聽覺發育對語言發育有重要意義；
出生：鼓室無空氣，聽力差；
3-4月：定向反應，聽到悅耳聲音會微笑；
6-7月：區別父母聲音；
8個月：聽懂自己的名字；
1-2歲：能聽懂簡單語。

嗅覺和味覺發育

- 出生時嗅覺和味覺發育已很完善，可對不同味道產生不同的反應；
4-5月的嬰兒對食物的微小變化已很敏感，為味覺發育關鍵期；
嬰兒早期的味覺經歷的變化對以後接受食物有特殊作用。

皮膚感覺發育

1. 觸覺：新生兒很敏感，敏感部位是唇、口周、手掌及足底等，有先天的反射動作；
2. 痛覺：新生兒已有，但反應遲鈍，2個月後才逐漸完善；
3. 溫度覺：新生兒很敏感，環境溫度驟降時啼哭，保暖後就安靜。

知覺發育

5-6個月開始追視者、吹、摸、捏、敲擊等活動逐步了解物體各方面的屬性。

運動功能的發育



語言的發育

- 嬰兒期主要處於發音階段
1-2月發喉音；
2月發簡單元音；
7-8月無意識叫爸爸媽媽；
9月聽懂簡單詞語；
10月有意識叫爸爸媽媽。

總結：嬰兒一周歲時

1. 體重為出生體重三倍；身長約70-80cm；開始出牙；
2. 本能反射消失佳；
3. 3拾頭笑逗樂；
4. 5翻身辨親疏；
6. 7會坐學咿呀；
8. 9爬行10叫，12開步學說話。

Q&A

謝謝



女性在懷孕期間的生理變化

新禧堂
Quin Wei Mars KUOK
中藥師及中醫師



生殖道的變化 - 子宮

子宮大小
 長度: 7.5cm → 30-35cm
 橫徑: 5cm → 25cm
 前後徑: 2.5cm → 22cm

重量的增加
 60g → 1000g

子宮頸口
 1.2cm → 2cm, 0.5cm

子宮頸口
 肌肉纖維的伸長: 2-7倍
 子宮肌肉細胞肥大: 大小為懷孕前: 17-40倍
 容積: 800ml, 容積10ml, 4000-5000ml

血液增加
 12-20ml/min, 500-700ml/min, 20-40倍, 7%達到胎盤

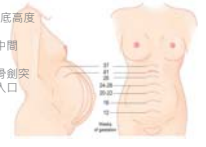


生殖道的變化 - 子宮

宮底位置的變化

從妊娠週出懷孕各月的子宮底高度

- 10-12週: 恥骨聯合
- 16-18週: 肚臍與恥骨聯合中間
- 20-24週: 肚臍
- 36-37週: 臍高點, 接近胸骨劍突
- 40-41週: 胎頭下降至骨盆入口



生殖道的變化

子宮頸
 黏液塞

陰道
 分泌物增加
 乳酸桿菌活性: pH值 4.3 - 5.4降至3.5
 預防病菌生長, 卻易染白色念珠菌生長

卵巢
 停止排卵

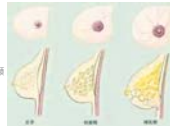


乳房

乳房與結締組織
 妊娠初期, 乳房有酸痛或脹痛感
 乳腺泡增生, 肥厚以及脂肪沉積

乳暈色素沉着
 妊娠第二個月, 表皮層變薄導致透明乳暈周圍皮膚色素沉着

分泌初乳
 16週開始分泌初乳



皮膚

皮膚
 乳暈、乳房、會陰、肛門周圍、黑痣
 70%孕婦臉、頸、手、腳、鼻、子出現雀斑

妊娠紋
 第二胎起, 出現紅紫色條紋
 妊娠結束後變成白色

血管擴張
 胸部、腹部、腿、手腳和腳部
 身體中心向外放射狀分布的小紅點

皮膚瘙癢
 孕晚期及產後
 孕晚期及產後
 孕晚期及產後

頭髮減少
 妊娠期, 頭髮生長速度減緩, 休止期毛髮數目減少
 產後休止期毛髮數目大為增加, 促使頭髮脫落及換新



呼吸系統

肺功能改善
 潮氣容積
 功能肺容積、呼吸儲備容積、肺總容積
 肺活量、呼吸速度、最大呼吸容積
 16週後, 耗氧量增加15-20%

子宮擴大
 子宮增大, 橫膈上升, 胸腔前後徑及橫徑增加

荷爾蒙變化
 動情素升高, 造成鼻黏膜充血及充血
 出現鼻塞及鼻出血



心臟血管系統

心臟大小
 橫膈膜子宮壓迫, 心臟向上向左側, 心尖轉向左移
 約90%孕婦可能出現心臟雜音

心輸出量
 懷孕時常見的增加, 常見於動作快速改變時

心跳速率
 平均每分钟增加10-15次

血壓
 第一胎胎齡較前降低
 第二胎胎齡較前降低
 第三胎胎齡逐漸回升

心臟輸出量增加
 妊娠初期血容量增加, 心輸出量也增加25-50%(30-32週最高峰)
 微子狀態, 胎盤, 腎臟等循環



心臟血管系統

血容量增加
 懷孕後血容量增加30-50%

妊娠生理性貧血
 血容量增加時, 血漿量先增多,
 血紅素和紅血球濃度相對減少, 假貧血

靜脈血栓
 好發於外陰、直腸、下肢、足踝處

相對性低血容量狀態
 妊娠末期孕婦平躺易出現低血壓、頭暈、心悸、
 臉色蒼白、眩暈及皮膚蒼冷等



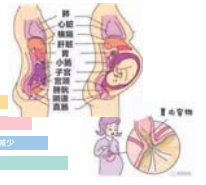
心臟血管系統

項目	單位	正常值
血容量	(L)	5,000ml (2,600ml)
血漿量	(L)	3,000ml
紅血球	(%)	37% (37.4%)
血紅素	(g/dl)	11-12g/dl (12-16g/dl)
平均血紅素(MCH)	(pg)	80-94pg (87pg)
平均血紅素指數(MCHC)	(g/dl)	33-38g/dl (4-28g/dl)
血沉	(mm/hr)	4-60mm/hr (0-200mm/hr)
白蛋白	(g/dl)	5.00-6.00 (5.00-10.00)
血尿酸	(mg/dl)	3.0-3.5mg/dl (4.0-4.5mg/dl)
尿酸	(mg/dl)	4.0-6.0 (2.0-6.0)
血小板	(mm ³)	不變或減少: 150,000-400,000/mm ³
纖維素原	(mg/dl)	300-800mg/dl (200-400mg/dl)
凝血因子 VIII - VIII, IX - X		↑



腸胃系統

噁心、嘔吐
 味覺和嗅覺的改變
 腸胃分泌減少
 胃酸
 胃的蠕動
 肝功功能變化
 膽汁排出量減少
 便秘



泌尿系統

腎臟
 尿量增加60-80%, 尿比重下降

腎臟清除率
 腎臟清除率GFR
 腎血流量RPF
 兩者增加30-50%

血尿酸
 血尿酸 BUN
 尿酸清除率 Creatinine
 因腎臟尿酸清除率增加, 兩者皆下降

腎小管
 腎小管再吸收率增加, 代償腎絲球過濾率的增加
 腎臟對水分吸收的體積增加
 腎絲球過濾率增加, 使葡萄糖過濾到腎小管的有用增加, 但
 腎臟對葡萄糖的再吸收在有用率一定的, 多餘的葡萄糖無法
 再被吸收而排出尿中。



泌尿系統

輸尿管
 管徑擴張和增大: 因為體性的作用, 總增加的尿流量
 延長和增血: 黃體素和胎兒壓迫, 造成輸尿管無力以及蠕動減少

膀胱
 膀胱容量減少
 頻尿



骨骼系統

脊柱彎曲向前
 為適應增大的子宮使得胸膝下垂,
 頭向前屈, 腰部即發性向前彎,
 易有腰痛、上肢酸痛。

骨盆帶和關節柔軟加大
 搖擺步姿
 恥骨分離
 下背部疼痛



內分泌系統

胸下垂
 腺下垂前葉: 泌乳素、促甲狀腺素、腎上腺皮質素
 腺下垂後葉: 催產素、升糖素

甲狀腺
 三碘甲狀腺素T3及甲狀腺素T4增加, 促進基礎代謝率增加

副甲狀腺
 由於鈣為胎兒成長所需, 故副甲狀腺分泌增加尤其懷孕15-35週達最高峰

腎
 腎臟分泌的尿酸, 尿酸部分分泌成尿酸鹽及尿酸
 尿酸鹽及尿酸鹽尿酸鹽的濃度增加

腎臟
 孕婦缺乏胰島素, 即有妊娠糖尿病



內分泌系統

人體生理性體重增加
 妊娠前3個月, 平均增加50-70日達至高峰, 20週後減少,
 剩餘體重分泌黃體素及動情素以維持妊娠。

直接刺激甲狀腺運動
 刺激胎兒和胎盤的發育, 促進乳房成長, 提高胎盤溶解率及排出胎盤, 提供能量

胎盤
 刺激子宮發育, 提供胎兒成長環境; 刺激乳線系統的發育, 分泌乳汁;
 刺激胎盤分泌黃體素及動情素以維持妊娠

腎臟
 促進子宮內膜腺體形成且維持妊娠狀態; 胎兒平穩, 刺激子宮收縮;
 促進乳房及乳腺成長, 準備哺乳

腎臟
 平衡子宮活動; 減少子宮收縮的強度; 幫助子宮收縮和胎盤循環

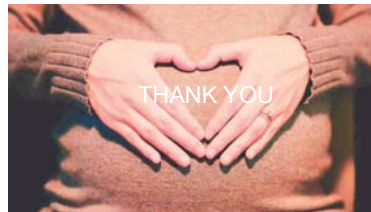


體重的改變

體重增加
 整個懷孕大約增加11-16公斤,
 前三個月較緩慢, 約共增加1-2公斤,
 第二、三個月各增加5公斤, 大約1磅/週(0.45公斤/週),
 不低於4公斤/月, 或超過3公斤/月。

體重增加
 (kg)

胎兒	2800 - 3400
胎盤	500 - 800
羊水	900 - 1600
子宮肌肉	900 - 1200
乳房	500 - 1000
母體血容量增加	1500 - 2000
總體液	1600 - 2400
母體體內脂肪儲備	2000 - 4000
總計	10700 - 17300



Postnatal Assessment

Quin Wai Man, KLOK
Obstetrics and Gynecology Specialist Nurse

Content

- Contraction and Height of Uterus
- Lochia
- Breast
- Lower Limbs

Definition

- The time after delivery when maternal physiological and psychological changes related to pregnancy return to the non-pregnant state.
- The postpartum period
- The puerperium
- The fourth trimester

Definition

- All issues pertaining to the mother and the baby after birth up to 6 weeks (42 days) (WHO, 2010)
- Immediate postpartum (First 24 hours)
- Early postpartum (First week)
- Late postpartum (Second week till end of 6 weeks)
- Postpartum care
– 6 - 8 weeks after delivery (ACOG, 2018; NICE, 2018)

Uterus

- Uterine Involution
–The return of the uterus to a non pregnant state after birth.
- Involution Process
–Begins immediately after expulsion of the placenta with contraction of the uterine smooth muscle.

Uterus Involution

- Ischemia:
– Occurs as result of collapse of blood vessels.
- Autolysis:
– A physiological process by which involution of the uterus is achieved. Breakdown of the intracellular protein by proteolytic & hydrolytic enzymes.

Uterus Contractions

- Postpartum hemostasis.
- Myometrial retraction (brachystasis)
- Compression of intramyometrial blood vessels.
- The uterine muscle contracts rather than by platelet aggregation and clot formation.

Uterus Contractions

- The hormone oxytocin
- Exogenous oxytocin
- The uterus is very sensitive to oxytocin during the first week or so after birth.
- Vigorous contractions are more common in multipara.

Placental site

- Vascular Constriction and thromboses reduce the placental site to an irregular nodular and elevated area.
- Upward growth of the endometrium causes sloughing of necrotic tissue and prevents the scar formation characteristic of normal wound healing.
- This unique healing process enables the endometrium to resume its usual cycle of changes and permit implantation and placentation in future pregnancies.
- Endometrial regeneration is completed by postpartum day 16, except at the placental site.
- Regeneration at the placental site usually is not complete until 6 weeks after birth

Uterus Biometry

- Biometry of gravid uterine horn

Days Postpartum	Weight	Diameter of gravid uterine horn
Immediately after birth	1000g	18cm
1 Weeks after abirth	500g	12-14cm
2 Weeks after abirth	350g	7cm
6 Weeks after abirth	60-80g	3-4 cm

Uterus Assessment

- After complete delivery of placenta:
– Feel if uterus is hard and round
– If not, massage fundus in a circular motion with cupped palm until uterus is well contracted.
– Location: Midline
• the Right side uterus might mean full bladder.

Uterus Fundal Descent

- Immediately after birth
– Midline
– 2 cm below umbilicus.
- Within 12 hours
– Rise to ± 1 cm above the umbilicus.
- During next few days
– Descends 1-2 cm (fingerbreadth) every 24 hours
- By day 6
– Normally located halfway between the umbilicus and the symphysis pubis.
- After 2 weeks the uterus should not be palpable abdominally.



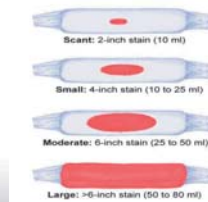
Lochia

- Postbirth uterine discharge
- Lochia rubra:
– 1-3 Days
– Fresh blood from placenta
- Lochia serosa:
– 3-10 Days
– Brownish pink after 4 days
- Lochia alba:
– 10-14 Days or longer
– Whitish discharge

Lochia

- About 10% to 15% of women still have normal lochia serosa discharge at their 6 weeks postpartum examination.
- Endometritis
– Fever
– Pain
– Abdominal tenderness
– Offensive odor

Volume of Lochial Flow in hour



Estimating Blood Loss

- Normal blood loss
– Vaginal delivery: 500mL
– Cesarean delivery: 1000mL
- If blood loss is excessive, weight linens and pads for a more accurate estimation.
- 1 Milliliter of blood = 1 gram in weight.

Lochia

- Lochial bleeding
– lochia usually trickles from the vaginal opening, the steady flow is greater as the uterus contracts.
– A gush of lochia can appear as the uterus is massaged.
- Non-lochial bleeding
– Cervical or vaginal tears

Lochia

- The amount of lochia is usually less after a cesarean birth.
- Flow of lochia usually increase with ambulation and breastfeeding.
– Lochia tends to pool in the vagina when the woman is lying she stands.
– This gush should not be confused with hemorrhage.

Assessment- Vaginal bleeding

- Heavy Bleeding
– Pad soaked in < 5 min
– Constant trickling of blood
– Bleeding >500ml
- Call for extra help
- Massage uterus until it is hard and give oxytocin 10 Units
- Insert an IV line
- Empty bladder
- Check and record BP and pulse every 15 minutes and treat as on

Assessment- Vaginal bleeding

- Check and ask if placenta is delivered
- Placenta not delivered
– When uterus is hard, deliver placenta by controlled cord traction
– If unsuccessful and bleeding continues, remove placenta manually and check placenta
– Give appropriate antibiotics

Assessment- Vaginal bleeding

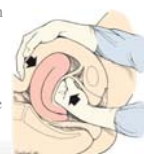
- Placenta delivered
- Check placenta
- Complete
– Massage uterus to express any clots
– If uterus remains soft, give ergometrine
• DO NOT give if eclampsia, pre-eclampsia or known hypertension
– Continue IV fluids with oxytocin
– Continue massaging uterus till it is hard
- Incomplete
– Remove placental fragments
– Give appropriate antibiotics
– D&C if unable to remove

Assessment- Vaginal bleeding

- Check for perineal and lower vaginal tears
- If present
– Examine the tear and determine the degree
– Repair the tear

Assessment- Vaginal bleeding

- Heavy bleeding
– IV Fluids with oxytocin
– Insert second IV line
– More Pharmacological measures
– Apply bimanual uterine compression



Assessment- Vaginal bleeding

- Heavy bleeding
– Surgical measures
• Intrauterine balloon tamponade
• Haemostatic suture around uterus (e.g. B-lynch)
• Bilateral uterine or internal iliac artery ligation
• Hysterectomy

Perineal Repair

Quin Wai Man, KUOK
郭慧雯
Obstetrics and Gynecology
Specialist Nurse

Content

- Risk Factors for Perineal trauma
- Anatomy of Perineum
- Classification of perineal lacerations
- Episiotomy
- Techniques for repair

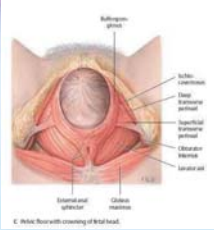
Risk Factors for Perineal Lacerations

- Nulliparity
- Asian race
- Increasing gestational age
- Increasing birth weight
- Episiotomy
- Delivery with stirrups
- OT or OP positions
- Prolonged 2nd stage of labor
- Operative vaginal delivery

Anatomy of Perineum



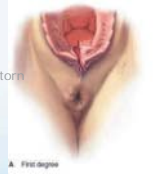
Muscular Structures



Classification of Perineal Lacerations

First Degree

- Involves fourchette only;
- vaginal and perineal skin torn
- muscles intact
- May not require repair



Classification of Perineal Lacerations

Second Degree

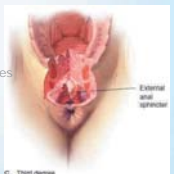
- Involves fourchette and superficial perineal muscles
- vaginal tear often extends up both sides



Classification of Perineal Lacerations

Third Degree

- Involves fourchette, superficial perineal muscles and anal sphincter



Classification of Perineal Lacerations

Fourth Degree

- Involves fourchette, superficial perineal muscles, anal sphincter and rectal mucosa



Classification of Perineal Lacerations

- Recognition is key
- "Pill rolling" action



Episiotomy

- Episiotomy should not be performed routinely.
- Indications:
 - Shoulder dystocia
 - Macrosomic fetuses
 - Operative vaginal deliveries
 - OP positions
 - Fetal distress
- Timing
 - the perineum is thinned out
 - 3 ~ 4 cm of the baby's head is visible during a contraction.

Anaesthetic

- Local anaesthetic
- Inject the lidocaine solution into the perineal muscle.
- **Aspirate** to be sure that no vessel has been penetrated. If blood is returned in the syringe with aspiration, remove the needle. Recheck the position carefully and try again.
- **Never inject if blood is aspirated.**
- The woman can suffer **convulsions** and **death** if IV injection of lidocaine occurs.



Episiotomy

- Midline
- Mediolateral
- Lateral



Episiotomy

Type of episiotomy	Origin of the initial incision	Direction of the cut	Length
Median (Midline)	Within 3 mm of the midline in the posterior fourchette	Between 0° and 25° of the sagittal plane	2 ~ 3cm
Mediolateral	Within 3 mm of the midline in the posterior fourchette	Directed laterally at an angle of at least 60° from the midline towards the ischial tuberosity	3 ~ 4cm
Lateral	More than 10 mm from the midline in the posterior fourchette	Laterally towards the ischial tuberosity	3 ~ 4cm

Episiotomy

- Episiotomy should be performed mediolaterally at a 60-degree angle at crowning
- The optimal angle of the mediolateral episiotomy at crowning of the head during labor



Episiotomy

Characteristic	Midline	Mediolateral / Lateral
Surgical repair	Easy	More difficult
Faulty healing	Rare	More common
Postoperative pain	Minimal	Common
Anatomical results	Excellent	Occasionally faulty
Blood loss	Less	More
Dyspareunia	Rare	Occasional
Extensions	Common	Uncommon

Perineal Repair Tools

- Exposure
 - Light
 - Patient positioning
 - Gauze
- Instruments
 - Sterile drapes and gloves
 - Antiseptic
- Suturing instruments
 - Needle driver, forceps, scissors

Perineal Repair Tools

- Anaesthetic
 - Epidural or local
 - 10mL syringe with 21 gauge needle
 - 2% lidocaine
- Suture
 - Absorbable suture
 - Vicryl Rapide, Velosorb Fast
 - Size of suture: 2/0 or 3/0
 - Round needle for muscle and mucosa
 - cutting needle for skin fascia



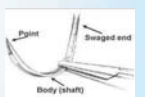
Infiltration of Local Anaesthetic

- Inject the lidocaine solution into the vaginal mucosa, beneath the skin of the perineum and into the perineal muscle
- **Aspirate** to be sure that no vessel has been penetrated. If blood is returned in the syringe with aspiration, remove the needle. Recheck the position carefully and try again.
- **Never inject if blood is aspirated.**
- The woman can suffer **convulsions** and **death** if IV injection of lidocaine occurs.



Principles of Suturing

- The plane of the needle should be at right angles to the plane of the holder.



- Needle holder should grasp the needle at approximately 3/4 of the distance from the points to avoid bent or broken needle.

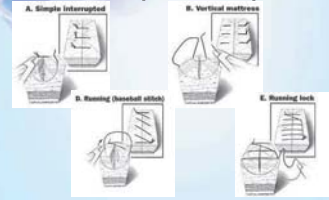


Techniques for Repair

- The needle should enter the tissue **perpendicular** to the surface.
- The needle holder must be held **parallel with the wound edges**, otherwise a puncture of the rectum may occur

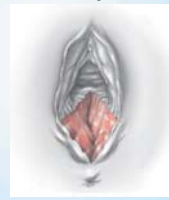


Techniques for Repair



Techniques for Repair

- Identify landmarks



Techniques for Repair

- Suture the vagina first, using a continuous suture.
- Start about 0.5-1 cm above the apex of the wound.
- Tie the stitch with 3 alternating knots.
- Continue the suture, placing each suture about 1 to 1.5 cm from the last.
- Stitches should include the same amount of tissue from each side.





Normal Labor & Delivery & Complication


Dr. Chan Man Michelle 陳敏

Fellow of The Macau Academy of Medicine (Obstetrics and Gynecology)
Diploma Specialist of Obstetrics & Gynecology of SS
Qualification Consultant of Obstetrics & Gynecology of SS

Contents

1. Definition of labor
2. Causes of onset of labor
3. Changes before labor (premonitory symptoms)
4. True labor
5. Essential factors of labor
6. Stages of labor
7. Diagnosis of labor
8. Management of labor
9. Complication of labor

Normal Labor & Delivery



Labor is a physiologic process during which the products of conception (i.e. the fetus, membranes, umbilical cord and placenta) are expelled outside the uterus

What is normal Labor? Definition 1

The World Health Organization (WHO) defines normal Labor as follows: 1997

Spontaneous in onset, low-risk at the start of labor and remaining so throughout labor and delivery. The infant is born spontaneously in the vertex position between 37 and 42 completed weeks of pregnancy. After birth, mother and infant are in good condition


Definition 2

1. The labor is spontaneous in onset
 2. Singleton
 3. Mature fetus (37 complete weeks -42 weeks)
 4. The infant is born spontaneously in the vertex position through the birth canal
 5. Within a reasonable time
 6. low risk at the start of labor and remains so throughout labor and delivery.
 7. After birth, mother and infant are in good condition
- ### Criteria OF NORMAL LABOR Definition 3

Importance

Understanding the process of labor is importance

- Problem can be identified
- Correctly managed

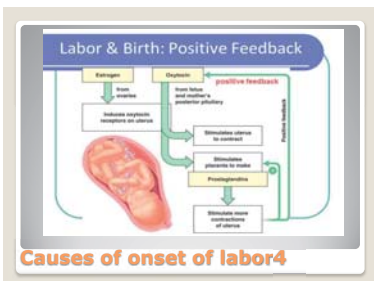



Causes of onset of labor

- Uterine distension: over-stretching of the uterus may play some part in onset of labor. Stretching effect on the myometrium by the growing size of the fetus and amniotic liquor can explain the onset of labor at least in twins or hydramnios. However "optimal distension theory" fails to account for the otherwise causeless preterm labor.
 - Feto-placental contribution: unknown factors stimulates fetal pituitary prior to onset of labor increased release of ACTH stimulates fetal adrenals increased cortisol secretion accelerated production of estrogen and prostaglandins from the placenta.
- ### Causes of onset of labor 1

- The probable modes of action of estrogen are:
 1. --increase the release of oxytocin from maternal pituitary
 2. --promotes the synthesis of receptors for oxytocin in the myometrium and decidua.
 3. --accelerates lysosomal disintegration inside the decidua cells resulting in increased prostaglandin synthesis.
 4. --stimulates the synthesis of myometrial contractile protein
 5. ---increase the excitability of the myometrial cell membranes.
- ### Causes of onset of labor2

- Progesterone: increased fetal production of dehydroepiandrosterone sulphate and cortisol may inhibit the conversion of fetal progesterone to progesterone, altering the estrogen : progesterone ratio. The alteration in the estrogen progesterone ratio rather than the fall in the absolute concentration of progesterone which is linked with prostaglandin synthesis.
 - Prostaglandins: the major sites of synthesis of prostaglandins are placenta, fetal membranes, decidua cells and myometrium. Synthesis is triggered by --rise in estrogen level, altered estrogen-progesterone balance, mechanical stretching in late pregnancy, increase in oxytocin receptors specially in the decidua vera, infection, separation or rupture of the membranes. * Oxytocin it is probable that myometrial contraction is more dependent on its own readiness to respond to oxytocin, oxytocin level reaches the maximum at the moment of the birth.
 - Nervous factors: labor may also be initiated through nerve pathways.
- ### Causes of onset of labor3



- The premonitory stages may begin 2-3 weeks before the onset of true labor in prim-gravida and a few days before in multipara. The symptoms are inconsistent and may consist of the following:
 - ✓ false pain
 - ✓ lightening
 - ✓ blood show
 - ✓ cervical changes
- ### Premonitory symptoms of labor

- False Pain
- It usually appears prior to the onset of true labor pain, by one or two weeks in prim-gravida and by a few days in multipara.
1. discomfort is characterized as over the lower abdomen and groin areas
 2. without effect on dilation of the cervix (not associated with progressive dilation)
 3. typically shorter in duration
 4. less intense
- ### Premonitory symptoms of labor

- Lightening
- Few weeks prior to the onset of labor specially in prim-gravida, the presenting part sinks into the pelvis. The patient reports the sensation that the baby has gotten less heavy, the result of the fetal head descending into the pelvis. The patient often notices that the lower abdomen is more prominent and the upper abdomen is flatter, and there may be more frequent urination as the bladder is compressed by the fetal head. This descending diminishes the fundal height and hence Minimis the pressure on the diaphragm. This makes the woman more comfortable and has an easier time breathing. It is a welcome sign, as it rules out cephalopelvic disproportion and other conditions preventing the head from entering the pelvic inlet.
- ### Premonitory symptoms of labor

- Blood show
- With the onset of labor, there is profuse cervical secretion. Simultaneously, there is slight oozing of blood from rupture of capillary vessels of the cervix and from the raw decidual surface caused by separation of the membranes due to stretching of the lower uterine segment. Expulsion of cervical mucus plug, mixed with blood is called show. This bloody show results as the cervix begins thinning out with the concomitant extrusion of mucus from the endocervical glands. Patients often report the passage of blood-tinged mucus late in pregnancy.
- ### Premonitory symptoms of labor

- Cervical changes:
- several days prior to the onset of labor the cervix becomes ripe. A ripe cervix is soft, less than 1.3cm in length, admits a finger easily and is dilatible. Cervical effacement is common before the onset of true labor.
- ### Premonitory symptoms of labor

- False Labor
 - True Labor
1. Irregular and do not follow any pattern
 2. No progress over time, remain the same
 3. Generalized abdominal tightening
 4. Will disappear with any activity or movement
 5. Cervix unchanged
 6. No bloody show
 7. No forewater bag formation
 8. No water leakage
1. Regular contractions and follow a pattern
 2. Progress with time in becomes more frequency and, stronger and longer
 3. Begin from lower back and radiate towards the groin region
 4. No relieve with change activity or movement
 5. Cervix dilate
 6. Bloody showed happens
 7. Forewater bag bulges
 8. Water leakage
- ### True labor and False labor

- The progress and final outcome of labor are influenced by 4 factors:
- 1) the labor force
 - 2) the passage (the bony and soft tissues of the maternal pelvis)
 - 3) the passenger (fetus)
 - 4) the psyche. A high level of anxiety during pregnancy has been associated with decreased uterine activity and with longer and dysfunctional labor.
- Abnormalities of any of these components, singly or in combination, may result in dystocia.
- ### Essential factor of labor1

Four Essential Components of Labor


- The Four Ps of Labor
 - Passageway
 - Passenger
 - Powers
 - Psyche
- Problematic areas influence labor negatively

Essential factor of labor1

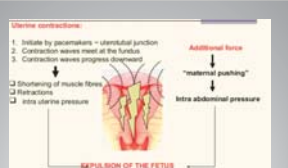
Labor Force Power

Uterine contraction is the major force through the whole course of labor. It includes contraction and retraction, the pattern of uterine contraction show that in normal labor each contraction wave starts near one or other uterine corner. The contraction spreads as a wave in the myometrium, taking 10-30 seconds to spread over the whole uterus.

- Abdominal muscle: Bearing down
- Levator ani muscle help fetus internal rotation



Essential factor of labor1



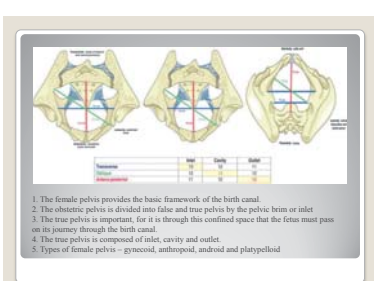
Power Contractions + Maternal Pushing

Uterine contractions: 1. Initiate by pacemakers - uterine junction 2. Contraction waves meet at the fundus 3. Contraction waves progress downwards

Additional force: "maternal pushing" - intra abdominal pressure

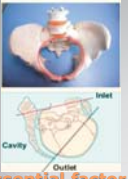
EXPULSION OF THE FETUS

- The ideal normal female gynecoid pelvis:
1. The brim is slightly oval transversely.
 2. The sacral promontory is not prominent.
 3. The transverse diameter is slightly longer than the anteroposterior.
 4. The sidewalls are parallel and straight.
 5. The ischial spines are not prominent.
 6. The sacrotuberous notches are wide.
 7. The sacrum has a good curve.
 8. The pubic arch angle are wide, i.e. more than 90°
 9. Inter tuberos diameter is wide



The ideal normal female Gynecoid pelvis:

Essential factors of labor/birth canal Pelvic midplane. It is the smallest plane of the pelvic canal. Its anteroposterior diameter is average 11.5cm, its transverse diameter between the ischial spines (interspinous diameter) is average 10cm The plane of least dimensions is an important obstetric plane because shortening of its diameters frequently is associated with obstructed labor.



Essential factor of labor2 Birth canal Passage

Cesarean Section 剖宮產

Propose Procedure and Risk
程序 and 風險

Dr. CHAN MAN MICHELE 陳敏

Fellow of The Macau Academy of Medicine (Obstetrics and Gynaecology)
DIPLOMA SPECIALIST OF OBSTETRICS & GYNECOLOGY OF SS
QUALIFICATION CONSULTANT OF OBSTETRICS & GYNECOLOGY OF SS

Different between normal delivery and C-section

剖宮產術 (Cesarean Section)

Cesarean section is defined as the delivery of a fetus through surgical incisions made through the abdominal wall (laparotomy) and the uterine wall (hysterotomy).

剖宮產
是一種手術過程，其透過孕婦腹部的切口 (laparotomy) 和子宮切開術 (hysterotomy)，以娩出存活的一個胎兒或多個嬰兒及其附屬物的手術。

History of Cesarean section

西元前國家剖宮產的最早紀錄，要追溯到古羅馬時期。

History of Cesarean Section

Modern C-Section

- 1881 First modern C-section performed by German Gynaecologist, Ferdinand Adolf Kehrer. He introduced transverse incision of Uterus.
- 1882 Max Saenger introduced uterine suture, and Saenger's Operation*. Kehrer and other surgeons later applied this operation.
- 1888: First C-section under modern antiseptic condition was done by Murdoch Cameron.
- 1900 Hermann Johannes Pfannenstiel introduced Pfannenstiel's incision (bikini-line incision)
- Anesthesia, aseptic technique, antibiotic and blood transfusion was developed later, thus improving the outcome of C-section.

*Cesarean section followed by careful closure of the uterine wound by three tiers of sutures

Caesarean section rates

Country	Rate (%)
US	32.9%
Dominican Republic	58.1%
Brazil	55.5%
Egypt	55.5%

Source: The Lancet (Data is latest available for each country)

Propose of Cesarean section

A Cesarean section can be a life-saving procedure for both mother and infant

C-section Rate

The World Health Organization has long recommended that the ideal C-section rate should be between 10-15%.

- Factors associated with rising rate of C-section (C.S)
 - Procedure as high forceps and difficult mid forceps are abandoned in favor of C.S
 - Increase C.S delivery in breech presentation
 - Disruptive operations are abandoned in favor C.S
 - Decreased morbidity and mortality due to C.S. encourages its use
 - Increase repeated C.S. due to increased primary C.S

Category of Cesarean Section

The Royal College of Obstetricians and Gynaecologists (RCOG) guidelines Indication for CS

Category	Description
1	Immediate threat to the life of the woman or fetus
2	Maternal or fetal compromise that is not immediately life-threatening
3	No maternal or fetal compromise but needs early delivery
4	Elective - delivery timed to suit woman or staff

Category 1 section is called, the baby should be born within 30 minutes, some units would expect 20 min
Category 2 sections, there is not a universally accepted time, but usual audit standards are between 60-75 min
Elective Caesarean sections are usually planned after 39 weeks of pregnancy to reduce respiratory distress in the neonate - known as Transient Tachypnea of the Newborn.

Indications of C.S

Category 1 or Emergency CS

There is immediate threat to the mother or fetus Ideally, procedure must done within the next 30 minutes

- Cord prolapse
- Failed instrument birth with fetal compromise
- Maternal cardiac arrest
- Outdated fetal biophysical <70ygs >3cm
- Abnormal fetal scalp sample PH <7.2
- Placenta abruptio
- Placenta Previa with major bleeding
- Scar rupture
- Identified irreversible abnormality on the cardiogram that requires treatment

Indications of C.S

Indications of C.S

Prolapsed Cord

- Elective flip, administer oxygen, and keep mother warm
- Keep baby's head away from cord
- Do not attempt to push cord back
- Wedge cord in shallowest vessel
- Transport mother to hospital, monitoring pressure on baby's head

Indications of C.S

Category 2 or Urgent C-section

There is maternal or fetal compromise but it is not immediately life threatening, delivery should be completed with in 60-75 minutes

- Identified irreversible abnormality on the cardiogram but safe to deliver within 60 minutes
- Malpresentation

Indications of C.S

Category 3 Needing earlier than planned

but without currently evident maternal or fetal compromise

- Failure to progress of Labor
- Malpresentation in early labor
- Planned C.S presenting in labor
- Maternal condition requiring stabilization e.g. preeclampsia

Indications of C.S

Category 4 Elective C.S

At a time acceptable to both the woman and medical team, these can be affected by a number of factor

Indication for C-section

Maternal pelvic foemation

- Uterine scar, risk for uterine rupture
- repeat C section
- fix uterine procedure myomectomy/repair uterine trauma
- Maternal pelvic deformity:
 - Anatomical malformation, making vaginal birth impossible
 - Obstructive lesions in the lower genital tract, including malignancies, large vulvovaginal condylomas, obstructive vaginal septa, and leiomyomas of the lower uterine segment that interfere with engagement of the fetal head
- Major medical complications
- Maternal uncontrolled Transmissible disease will harm to baby (HIV, Primary genital herpes)

Indication for C-section

Maternal

- Uterine scar, at risk of uterine rupture
- More than two times lower cervical CS prior
- Prior classical C.S
- Previous vertical uterine incision or transfundal uterine surgery

Indication for C-section

Maternal pelvic condition

- Maternal pelvic deformity:
 - Anatomical malformation, making vaginal birth impossible
 - Contracted pelvis
 - Soft tissue obstruction
 - Abdominal cerclage
 - Previous 3rd/4th perineal tear
 - Previous repair of vesicovaginal fistula or retrovaginal fistula

Indication for C-section

Maternal pelvic

Indication for C-section

Maternal pelvic

Birth Channel obstruction

Four Pelvis Types

女型 男型 类人猿型 扁平型

Birth Chanel obstruction

Birth Chanel obstruction

- Obstructive lesions in the lower genital tract, including malignancies, large vulvovaginal condylomas, obstructive vaginal septa, and leiomyoma of the lower uterine segment that interfere with engagement of the fetal head

Delayed * long-term* sequelae of C.S.:

- Adhesions:
 - Tubo-peritoneal leading to infertility.
 - Bladder adhesions making subsequent surgeries difficult.
 - Intussusception adhesions if the anterior and posterior walls of the uterus were sutured together leading to Asherman syndrome.
 - Intestinal adhesions leading to intestinal obstruction.
 - Adhesions and pelvic pain may need an operation to treat them.
- Weak uterus:
 - Proliferation of the uterus is more common if D&C is done in the presence of a weak scar.
 - Rupture of the uterus at the site of the scar in future pregnancies.
- Risk of incisional hernia.
- Higher risk of placenta accreta.

Maternal Fetal Health

SALUD MATERNO FETAL