中華民國內分泌學會
111年度12月繼續教育

懷孕期間的血糖異常與甲狀腺異常

2022
12.17
Sat.
9:00-16:00

張榮發基金會11樓1101室(台北市中正區中山南路11號)

主辦單位：社團法人中華民國內分泌學會

合辦單位：社團法人中華民國糖尿病衛教學會

台灣周產期醫學會

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會 場 交 通 指 南

張榮發基金會國際會議中心

電話：(02)2351-6699 分機 6199

地址：臺北市中正區中山南路 11 號

網址：https://icc.cyff.org.tw/

■捷運：▲搭乘捷運淡水信義線至「台大醫院」站 2 號出口下車

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2. 中正橋→重慶南路→總統府→凱達格蘭大道→信義路
3. 忠孝橋→忠孝西路右轉→中山南路→信義路
4. 台北橋→民權西路→中山北路二段→中山南路→信義路

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■公車：

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3. 搭乘 15、208 公車，於「景福門」下車

社 團 法 人 中 華 民 國 內 分 泌 學 會
111 年 度 12 月 繼 續 教 育 節 目 表

主 題：懷孕期間的血糖異常與甲狀腺異常
時 間：111/12/17 (六) 9:00-16:00
地 點：張榮發基金會 11 樓 1101 室 (台北市中正區中山南路 11 號)
方 式：實體講座

時間	題目	演講者	主持人
9:00-9:30	報 到		
9:30-9:45	Opening	劉鳳炫 理事長 內 分 泌 學 會 黃建寧 理事長 糖 尿 病 學 會 王治元 理事長 糖尿病衛教學會 洪泰和 理事長 周 產 期 醫 學 會	
主題 1: 妊娠期糖尿病之衛教			
9:45-10:05	遠距醫療於妊娠期糖尿病實戰照顧經驗分享	郭仁富 醫師 彰化基督教醫院	王治元 主任 臺大醫院
10:05-10:25	妊娠期糖尿病之懷孕期與產後營養照顧指引	趙強 營養師 馬偕醫院	李淳權 醫師 馬偕醫院
10:25-10:45	連續血糖監控於妊娠期糖尿病實戰照護經驗分享	陳思羽 護理師 三軍總醫院	呂介華 主任 三軍總醫院
10:45-10:55	Panel discussion	All	
10:55-11:05	Coffee break		
主題 2:GDM 臨床照護			
11:05-11:25	國家政策對妊娠糖尿病照護的影響	林芯伃 醫師 臺大醫院	李建南 醫師 臺大醫院
11:25-11:45	合併降血糖藥物治療 (Insulin+OAD) 對於妊娠期糖尿病處置的優缺點	劉松臻 醫師 馬偕醫院	歐弘毅 主任 成大醫院
11:45-12:05	特殊個案分享：MODY 2 照護經驗	黃峻偉 醫師 禾馨醫療	王舒儀 主任 彰化基督教醫院
12:05-12:15	Panel discussion	All	

時間	題目	演講者	主持人
Lunch symposium			
12:15-13:15	新型胰島素用於孕期控糖的新進展 (諾和諾德 1101 室)	郭俊亨 醫師 輔大醫院	李弘元 醫師 臺大醫院
	科技未來 FreeStyle Libre, 2 Make your life easier (亞培 1110B 室)	林世鐸 醫師 彰化基督教醫院	杜思德 醫師 彰化基督教醫院
主題 3:GDM 診斷			
13:15-13:35	HAPO & HAPO FUS 對於 GDM 照護的影響	林怡瑄 醫師 林口長庚	張宏猷 醫師 林口長庚
13:35-13:55	臺灣妊娠糖尿病照護的下一步挑戰：婦產科觀點	葛菁如 醫師 高醫附醫	詹德富 主任 高醫附醫
13:55-14:15	臺灣妊娠糖尿病照護的下一步挑戰	胡啟民 主任 臺北榮總	簡銘男 主任 馬偕醫院
14:15-14:25	Panel discussion	All	
14:25-14:35	Coffee break		
主題 4: 孕期甲狀腺照護			
14:35-14:55	懷孕期間的甲狀腺功能與碘營養	黃君睿 醫師 臺北榮總	郭錦松 醫師 臺北榮總
14:55-15:15	自體免疫甲狀腺疾病對人工生殖和孕程的影響與處置	施翔蓉 醫師 臺大醫院	張慶忠 醫師 中國附醫
15:15-15:35	是否需要在孕期全面篩檢甲狀腺疾病？	林啟康 主任 三軍總醫院	洪泰和 主任 臺北長庚
15:35-15:45	Panel discussion	All	
15:45-16:00	Closing	劉鳳炫 理事長　內分泌學會 洪泰和 理事長　周產期醫學會	

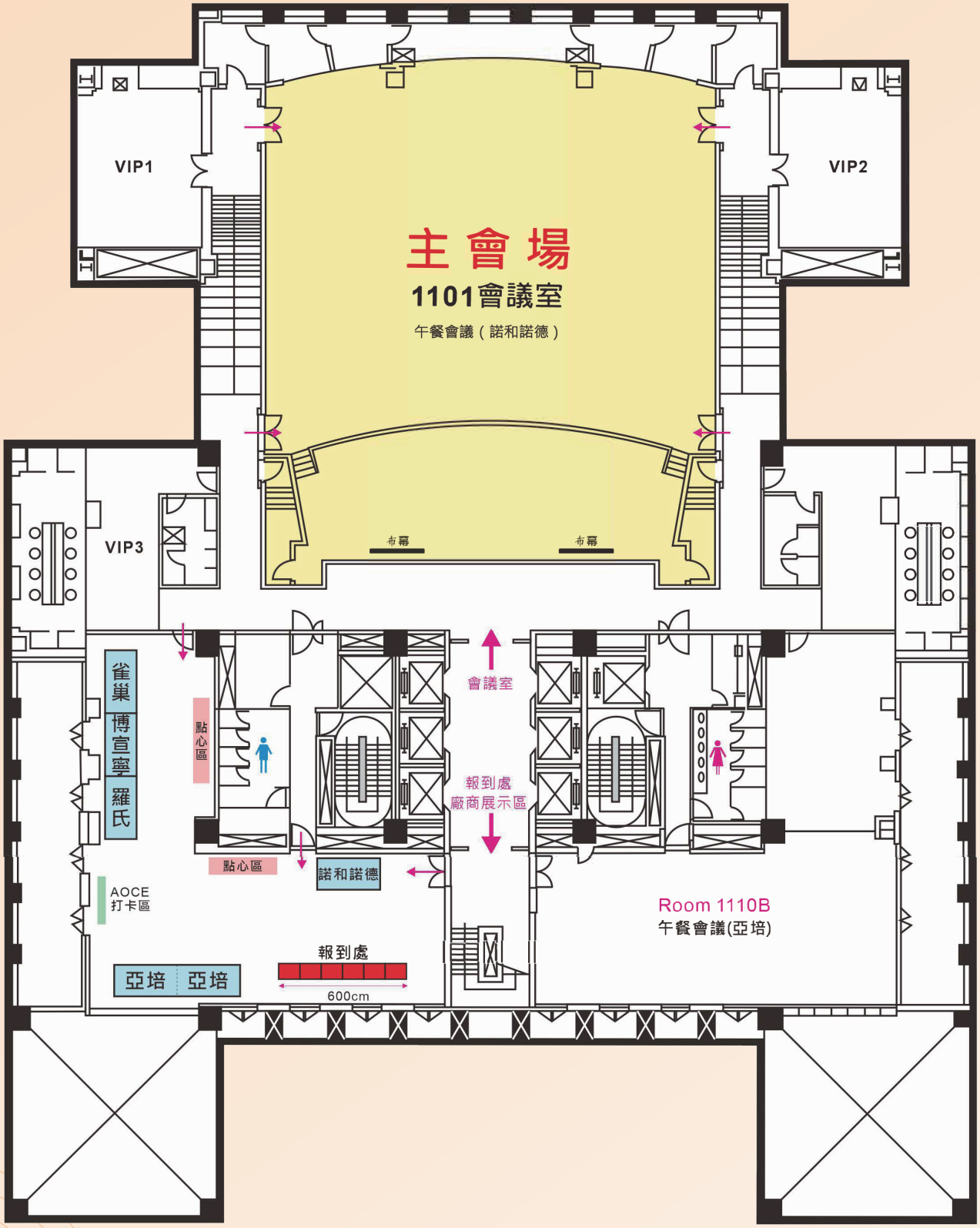
主辦單位：社團法人中華民國內分泌學會

合辦單位：社團法人中華民國糖尿病衛教學會、台灣周產期醫學會

學　　分：內分泌暨糖尿病學會甲類 10 分、糖尿病衛教學會甲類 6 分、周產期醫學會專科醫師積分 10 分、內科醫學會學分 B 類 10 分。

會場地圖

財團法人張榮發基金會11樓國際會議廳平面圖



社團法人中華民國內分泌學會 理事長致詞

各位女士先生會員們大家好：

今年 12 月繼續教育由社團法人中華民國內分泌學會、社團法人糖尿病衛教學會和台灣周產期醫學會共同聯合舉辦，本次繼續教育以「懷孕期間的血糖異常與甲狀腺異常」為主軸，規劃出四大主題講座，分別為「妊娠期糖尿病之衛教」、「GDM 臨床照護」、「GDM 診斷」和「孕期甲狀腺照護」，演講涵蓋了相關疾病新知和衛教照護，多位座長及演講者學養豐富，相信必能帶給大家精彩的學術饗宴，與會者必有豐碩的收獲及美好的交流。

鑑於新冠疫情目前已日益趨緩，民眾亦逐漸恢復生活日常，本次以實體會議規劃進行，感謝糖尿病學會黃建寧理事長支持，衛教學會王治元理事長、歐弘毅秘書長和李淳權主委，周產期醫學會洪泰和理事長、詹德富秘書長及本會陳維健秘書長和黃峻偉副秘書長的共同籌畫，並三會秘書處同仁的付出，全體會員的支持，各家廠商的共襄盛舉，讓此次聯合繼續教育順利圓滿成功。

祝大家身體健康，平安喜樂！

社團法人中華民國內分泌學會

理事長 劉鳳炫 敬上

民國 111 年 12 月 17 日

中華民國糖尿病衛教學會 理事長致詞

在全人照護的領域中，跨科、跨領域的醫療是最需要被關注的。

臺灣的少子化是一個既成的事實，因此每一位懷孕的媽媽，更是需要我們關心的台灣之母。非常感謝內分泌學會促成本次懷孕期的血糖異常及甲狀腺異常繼續教育會議，由糖尿病學會、糖尿病衛教學會及週產期醫學會，共同探討相關的議題。在內分泌的領域中，懷孕期間的血糖變化，妊娠期糖尿病，以及甲狀腺功能的變化，都攸關母體及胎兒的健康，原本就是在懷孕中產檢的重要方向。近年來，妊娠期糖尿病及糖尿病懷孕的婦女健康，已經是我們全民健保關注的重要方向，但是甲狀腺功能的異常，包括懷孕期間，甲狀腺機能亢進及甲狀腺機能不足，的確是需要多加注意的課題。本次的會議由四大學會合辦，討論的議題，在上、下午，分別以血糖及甲狀腺在懷孕期間的變化為主軸，進行遠距醫療以及產前及產後的實際照顧，進行專題演講，同時也針對國家政策的未來及個案進行討論。在孕期甲狀腺照護的部分，有關於碘的補充，以及懷孕當中抗體的變化處理，都會以台灣本土臨床導向性研究為本，由實際從事照護的專家，進行專題的演講，最後對於國家未來是否應安排懷孕期間甲狀腺篩檢，也會有政策性的相關建議。

所有的題目，精彩可期，也由台灣一流的專家進行專題報告，是一場非常豐富的知識饗宴。祝福本次大會圓滿成功！

中華民國糖尿病衛教學會理事長
臺 大 醫 學 院 內 科 教 授

王治元 敬上

民 國 111 年 12 月 17 日

台灣周產期醫學會 理事長致詞

各位女士、先生們，大家好：

妊娠糖尿病和甲狀腺功能異常是懷孕期間最常見的代謝性疾患。如果沒有適時地診斷並給予治療的話，常常會危害到母體和胎兒的健康。自從 2021 年 7 月 1 日起國健署全面實施一階段妊娠糖尿病篩檢方法之後，國內妊娠糖尿病的盛行率就大幅上升至 12-15%，而根據臺北長庚醫院的初步研究結果發現，懷孕初期有 2-3% 的孕婦合併有甲狀腺功能異常現象。這些數據顯示，妊娠糖尿病和甲狀腺功能異常將會是日後台灣孕期照護的重點。

為了提供更好的孕期照護品質，台灣周產期醫學會、中華民國內分泌醫學會、以及財團法人糖尿病衛教學會一起舉辦繼續教育活動，分別就妊娠糖尿病和孕期甲狀腺功能異常的診斷、治療、照護和衛教等方面邀請相關專家授課，並提供一個讓產科醫師和新陳代謝科醫師面對面溝通與討論的平台，建立日後合作的基礎。

日前國健署發布的「健康促進統計年報」指出，臺灣 2019 年孕產婦死亡率為每十萬名活產 16 人，雖然低於美國 17.4 人，但高於英、法、德、義等歐洲國家，也遠高於韓國的 9.9 人、日本的 3.7 人。看到這樣的報告，著實令人覺得惋惜，也惕勵致力於母胎醫學的產科醫師，應該要更加努力來提升高危險妊娠照護的品質和降低周產期母體死亡率，而跨學會、跨科系的教育與合作，是提升醫療人員專業知識與能力的具體做法之一。

感謝內分泌學會和糖尿病衛教學會的協助，讓這次活動得以付諸執行。然而，這只是起步，我們希望能夠延續這個精神，經由不同專科之間的互動與合作，為台灣婦女更好的孕期健康照護，盡一份心力。

台灣周產期醫學會 第十七屆理事長

洪泰和 敬上

民國 111 年 12 月 17 日

郭仁富 Jeng-Fu Kuo

彰化基督教醫院新陳代謝科主治醫師

學歷

1999-2006	高雄醫學大學醫學系	學士

經歷

2014-	彰化基督教醫院內分泌新陳代謝科	主治醫師
2010-2013	鹿港基督教醫院內分泌新陳代謝科	主治醫師
2006-2010	埔里基督教醫院內分泌新陳代謝科	主治醫師

研究領域

1 糖尿病
2 甲狀腺
3 骨質疏鬆症

論文 (5 important publications – latest sequence)

1 Chi-En Yen, Shu-Yi Wang, Shang-Ren Hsu, Jeng-Fu Kuo. Thyroid Dysfunction Induced by Lenvatinib in Unresectable Hepatocellular Carcinoma. Formos J Endocrinol Metab 13: 50-56, 2022

2 Lee CH, Wu YL, Kuo JF, Chen JF, Chin MC, Hung YJ. Prevalence of diabetic macrovascular complications and related factors from 2005 to 2014 in Taiwan: A nationwide survey. J Formos Med Assoc. 2019 Nov;118 Suppl 2:S96-S102.

3 P.C. Cheng, S.R. Hsu, J.F. Kuo, Y.C. Cheng, Y.H. Liu, S.T. Tu, Comparing the effect of dipeptidyl-Peptidase 4 inhibitors and sulfonylureas on albuminuria in patients with newly diagnosed Type 2 diabetes mellitu: a prospective open-label study, J.Clin. Med. (2019) 8.

4 Cheng PC, Hsu SR, Li JC, Chen CP, Chien SC, Tu ST, Cheng YC, Liu YH, Kuo JF. Plasma Low-Density Lipoprotein Cholesterol Correlates With Heart Function in Individuals With Type 2 Diabetes Mellitus: A Cross-Sectional Study. Front Endocrinol (Lausanne). 2019 Apr 11;10:234.

5 Chang Y-, Huang C-, Hwang J-, Kuo J-, Lin K-, Huang H-, Bagga S, Kumar A, Chen F-, Wu C-. Fracture liaison services for osteoporosis in the Asia-Pacific region: current unmet needs and systematic literature review. Osteoporos Int. 2017 Dec 28.

Case-Sharing of Managing Diabetes in Pregnancy Through Telehealth Visits
遠距醫療於妊娠期糖尿病實戰照顧經驗分享

Jeng-Fu Kuo
郭仁富
Section of Endocrinology and Metabolism, Department of Medicine, Changhua Christian Hospital
彰化基督教醫院內分泌新陳代謝科

Lifestyle behavior change is an essential component of management of gestational diabetes mellitus. Studies suggest that 70–85% of women diagnosed with GDM under Carpenter-Coustan criteria can control GDM with life style modification alone.

Telemedicine is a growing field that may increase access to care for patients with diabetesin pregnancy. Telemedicine includes services using two-way video, smartphones, wireless tools, and other forms of telecommunications technology which can be used to offer medical nutrition therapy, physical activity, and weight management, depending on pregestational weight. Interactive strategies that facilitate communication between registered dietitian /diabetes educator and patients, including the use of web-based portals or text messaging and those that incorporate diabetes self-management education and clinical support, appear more effective. Telehealth visits for pregnant women with gestational diabetes mellitus improve outcomes compared with standard in person care.

Here, we share our experience of managing diabetes in pregnancy through telehealth visits.

趙　強 Chiang Chao

馬偕紀念醫院營養醫學中心台北營養課營養師

學歷

1988	輔仁大學食品營養學系營養組	學士

經歷

2004/7-2008/7	馬偕紀念醫院台北院區營養課	課長
2000/7-2004/6	馬偕紀念醫院淡水院區營養課	課長
1998/7-2000/6	馬偕紀念醫院淡水院區營養課	副課長
1990-	馬偕紀念醫院營養課	營養師

Guidelines for Nutritional Care During Pregnancy and Postpartum for Gestational Diabetes

妊娠期糖尿病之懷孕期與產後營養照顧指引

Chiang Chao

趙 強

Department of Dietetics, Nutrition Medicine Center, Main Branch, MacKay Memorial Hospital, Taipei, Taiwan

馬偕紀念醫院營養醫學中心 台北營養課

Medical nutrition therapy for gestational diabetes mellitus (GDM) is an individualized nutrition plan developed between the woman and an RD/RDN familiar with the management of GDM. The food plan should provide adequate calorie intake to promote fetal / neonatal and maternal health, achieve glycemic goals, and promote weight gain according to 2009 Institute of Medicine recommendations. There is no definitive research that identifies a specific optimal calorie intake for women with GDM or suggests that their calorie needs are different from those of pregnant women without GDM. The food plan should be based on a nutrition assessment with guidance from the Dietary Reference Intakes (DRIs). The DRIs for all pregnant women recommends a minimum of 175 g of carbohydrate, a minimum of 71 g of protein, and 28 g of fiber. The diet should emphasize monounsaturated and polyunsaturated fats while limiting saturated fats and avoiding trans fats.

As is true for all nutrition therapy in patients with diabetes, the amount and type of carbohydrate will impact glucose levels. The current recommended amount of carbohydrate is 175 g, or ~35% of a 2,000-calorie diet. Liberalizing higher quality, nutrient-dense carbohydrates results in controlled fasting / postprandial glucose, lower free fatty acids, improved insulin action, and vascular benefits and may reduce excess infant adiposity. Mothers who substitute fat for carbohydrate may unintentionally enhance lipolysis, promote elevated free fatty acids, and worsen maternal insulin resistance. Fasting urine ketone testing may be useful to identify women who are severely restricting carbohydrates to control blood glucose. Simple carbohydrates will result in higher postmeal excursions.

In light of the immediate nutritional and immunological benefits of breastfeeding for the baby, all women, including those with diabetes, should be supported in attempts to breastfeed. Breastfeeding may also confer longer-term metabolic benefits to both mother and off-spring. However, lactation can increase the risk of overnight hypoglycemia, and insulin dosing may need to be adjusted.

陳思羽 護理師

三軍總醫院糖尿病中心糖尿病護理師
社團法人中華民國糖尿病衛教學會監事

學歷

1985	國立護理學院	

現職

2014-	社團法人中華民國糖尿病衛教學會	監事
1997-	三軍總醫院糖尿病中心糖尿病	護理師

重要專業經歷

2005-2014	社團法人中華民國糖尿病衛教學會	常務理事
	三軍總醫院代謝防治	中心組長
	三軍總醫院加護病房	護理師

論文 (6 important publications – latest sequence)

1. Structural equation modeling analysis of Process and mediating variables associated with glycaemic control in patients with type II diabetes:
2. Evidence of heterogeneity and individualization of diabetes educational program are required for patients with type 2 diabetes mellitus
3. The Effectiveness of Intensive Insulin Diabetes Management Program For Type 2 Diabetic Patient Receiving Initial Insulin Therapy Development of a New Measure to Predict the Acceptance of Initiating Insulin Treatment in Type 2 Diabetic Patients
4. 第 2 型糖尿病患接受胰島素注射治療之意願及其影響因素探討
5. 遠距的健康照護系統在胰島素治療的第二型糖尿病患者之成效與安全性評估
   陳思羽[1]、张毓泓[2]、徐慧君[2]、李洮俊[2]、洪乙仁[1]、謝昌勳[1] 三軍總醫院 新陳代謝科[1]
   李洮俊診所[2]
   原文刊載 Telemed J E Health. 2011 Sep 1. [Epub ahead of print]
6. 研究糖尿病患口腔照護介入對患者血糖控制及併發症發生之影響
   陳思羽[a]，林素瓊[a]，李建興[a]，謝昌勳[a]，謝義興[b]，洪乙仁[a]
   [a] 三軍總醫院內分泌及新陳代謝科，[b] 三軍總醫院牙科部

連續血糖監控於妊娠期糖尿病實戰照護經驗分享

陳思羽護理師
三軍總醫院新陳代謝科

妊娠血糖監測已納入糖尿病患的健保醫療給付，走健保給付之下可以有多次檢查的機會。這對於衛教人員而言，以往基於有限的自我指尖血糖監測 (SMBG) 資料，一般而言，只要想多進一步了解自己血糖的變化，監測數字的影響，可以更正確的把血糖波動呈現出來利供適合的血糖控制建議與藥物的調整。

在 2007 年的聯合國世界糖尿病日，集結了國內產業、官方、學術研究及醫療照護團隊，共同發表「台灣糖尿病宣言」，宣達台灣與全球同步防治糖尿病的決心，其中一項很重要的行動目標為—「加強糖尿病患的醫療照護服務」。執行方案包括提升對糖尿病的認知、建置有效的資料收集機制、訓練專業的醫療照護人員，主動積極地提供服務等。透過健康管理了解病況，並可滿足生活、心靈的需要。

以三軍總醫院新陳代謝症候群防治中心多年推行糖尿病照護的經驗，「自我健康管理」是讓病患與糖尿病和平共存的最佳方法。除了血糖自我監測（Self-Monitoring of Blood Glucose, SMBG）外；更加上雲端遠距照護系統。使病患居家量測更為方便，血糖控制效果更加顯著用於糖尿病患甚至妊娠糖尿病患密切血糖管控都會有很好成效

未來，還有可以連結智慧 3C 系統，能顯示血糖數值的變化，可供個人日常運用。加強糖尿病患社會心理因素在糖尿病管理中所發揮的核心作用以及對於糖尿病高科技管理的人為因素的洞察，身為糖尿病專業人員須提升的基本素養及能力是這世代重要性。

林芯伃 Shin-Yu Lin

臺大醫院婦產科主治醫師

學歷

2013	臺灣大學臨床醫學研究所	博士
2003	臺灣大學醫學系	學士

經歷

2011/7-2014/6	臺大醫院新竹分院婦產科	主治醫師

研究領域

1 產前遺傳診斷
2 高危險妊娠
3 Clinical epigenetics

論文 (5 important publications – latest sequence)

1 Ming-Wei Lin, Mong-Hsun Tsai, Ching-Yu Shih, Yi-Yun Tai, Chien-Nan Lee, Shin-Yu Lin*. Comparison of DNA methylation changes between the gestation period and the after-delivery state: a pilot study of 10 women. Frontiers in Nutrition. 2022.

2 Lin SY, Chuang GT, Hung CH, Lin WC, Jeng YM, Yen TA, Chang K, Chien YH, Hwu WL, Lee CN, Tsai IJ, Lee NC. Rapid Trio Exome Sequencing for Autosomal Recessive Renal Tubular Dysgenesis in Recurrent Oligohydramnios. Frontiers in Genetics. 2021 Jun 21;12:606970.

3 Kang J, Lee CN, Su YN, Lin MW, Tai YY, Hsu WW, Huang KY, Chen CL, Hung CH, Lin SY*. The Prenatal Diagnosis and Clinical Outcomes of Fetuses With 15q11.2 Copy Number Variants: A Case Series of 36 Patients. Front Med (Lausanne). 2021 Nov 23;8:754521 (Corresponding author)

4 Chen KY, Lin SY, Lee CN, Wu HT, Kuo CH, Kuo HC, Chuang CC, Kuo CH, Chen SC, Fan KC, Lin MW, Fang CT, Li HY. Maternal Plasma Lipids During Pregnancy, Insulin-like Growth Factor-1 and Excess Foetal Growth. J Clin Endocrinol Metab. 2021 Aug 18;106(9):e3461-e3472 (Co-first author)

5 Kang J, Liu CH, Lee CN, Li HY, Yang CW, Huang SC, Lin SY*, Jou TS. Novel Interleukin-10 Gene Polymorphism Is Linked to Gestational Diabetes in Taiwanese Population. Frontiers in Genetics. 2019 Feb 18 ;10:89. (Co-corresponding author)

The Impact of National Policies on Gestational Diabetes Care
國家政策對妊娠糖尿病照護的影響

Shin Yu, Lin
林芯仔
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臺大醫院 婦產科

妊娠糖尿病是產科最常見的妊娠併發症，隨著人們飲食習慣與生活型態的改變以及生育年齡的增加，罹患妊娠糖尿病的比例也不斷地增加。妊娠糖尿病可能會導致胎兒先天畸型、胎死腹中、新生兒死亡、巨嬰症、新生兒呼吸窘迫症候群、新生兒低血糖症、新生兒黃疸症或低血鈣症等，這些問題處理起來都相當麻煩。若未能及早發現妊娠糖尿病並予以控制，將容易導致巨嬰症，生產時發生肩難產的機會大增。對孕產婦本身而言，也會有妊娠高血壓、子癲前症和糖尿病酮酸中毒的可能性，或是生產時產道嚴重裂傷及需要剖腹產的風險；統計分析發現，有過妊娠糖尿病的女性，在隨訪 10 年後發生第 2 型糖尿病的風險，幾乎是妊娠期血糖正常女性的 10 倍，隨訪 5 年內發病風險是健康對照組的 17 倍。也因此，妊娠糖尿病短期內會影響到孕產婦及新生兒的健康，長遠來看也對婦女健康有著深遠的影響，這也就是為什麼需要國家政策介入來改善妊娠糖尿病的預後。國民健康署自 110 年 7 月 1 日起於妊娠第 24-28 週新增補助妊娠糖尿病篩檢項目，亦於 110 年 12 月 1 日起給付確診妊娠糖尿病的孕婦每天最多 5 片血糖試紙，直到生產，幫助孕婦控制血糖。這些政策可以提升妊娠糖尿病的篩檢率，提高罹患有妊娠糖尿病孕婦的診斷率，並且提升這些患病的孕婦自我監控血糖的意願，當然也就有較高的機會可以好好控制孕期的血糖，進而降低相關併發症的發生。

劉松臻 Sung-Chen Liu

馬偕紀念醫院新陳代謝科主治醫師

學歷

2010-2012	臺大公共衛生學院預防醫學研究所	碩士
1991-1998	中國醫學大學中醫學系	醫學士

經歷

2012/8-	馬偕醫學院	講師
2004/7-	馬偕紀念醫院新陳代謝科	主治醫師

研究領域

1 糖尿病
2 肥胖

論文 (5 important publications – latest sequence)

1 SC Liu, CC Lee, SM Chuang, FJ Sun, YH Zeng Comparison of efficacy and safety of empagliflozin vs linagliptin added to premixed insulin in patients with uncontrolled type 2 diabetes. Diabetes Metab. 2021;47(3):101-184.

2 SM Chuang, CH Wang, SC Liu, MN Chien, WC Chen Efficacy of Combination of Insulin Glargine with either Metformin or Sulfonylurea in Patients with Poorly Controlled Type 2 Diabetes. International Journal of Gerontology 2020;14: 138-141

3 SC Liu, SM Chuang, HM Shih, CH Wang, MC Tsai, CC Lee: High pulse wave velocity is associated with the severity of diabetic retinopathy in patients with type 2 diabetes. J Investig Med 2020;0:1–7.

4 SC Liu, KL Chien, CH Wang, WC Chen, CH Leung: Efficacy and safety of adding pioglitazone or sitagliptin to patients with type 2 diabetes insufficiently controlled with metformin and a sulfonylurea. Endocrine Practice 2013;19 : 980-988

5 SC Liu, YK Tu, MN Chien, KL Chien: Effect of antidiabetic agents added to metformin on glycaemic control, hypoglycaemia and weight change in patients with type 2 diabetes: a network meta-analysis. Diabetes, Obesity and Metabolism 2012; 14: 810-820.

Advantages and Disadvantages of Combined Drug Therapy (Insulin + OAD) for Diabetes in Pregnancy
合併藥物治療 (Insulin+OAD) 對於妊娠期糖尿病處置的優缺點

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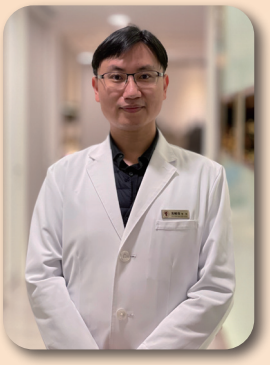
The prevalence of diabetes in pregnancy has been increasing in parallel with the worldwide epidemic of obesity. Glycemic targets in pregnancy are stricter than in nonpregnant individuals, and adequate treatment reduces fetal and maternal morbidity.

Insulin remains the pharmacologic agent of first choice to treat hyperglycemia in women with diabetes, as recommended by the ADA, American College of Obstetricians and Gynecologists, and Diabetes Association of Republic of China (DAROC) clinical practice guideline, when lifestyle changes fail to achieve glycemic goals.

Metformin and glyburide are recommended as alternative first-line or second-line treatment for diabetes in pregnancy in some guidelines. Glyburide was associated with a higher rate of neonatal hypoglycemia, macrosomia, and increased neonatal abdominal circumference than insulin. Long-term safety data for offspring exposed to glyburide are not available. Metformin was associated with a lower risk of neonatal hypoglycemia and less maternal weight gain than insulin. But data on long-term safety for offspring is of some concern.

There are few reports on the combination of oral anti-diabetes drug (OAD) with insulin in the treatment of pregnancy associated with diabetes. The aim of this lecture is to review the benefits and potential pitfalls of combined drug therapy (Insulin + OAD) for diabetes in pregnancy.



黃峻偉 Jin-Wei Huang

禾馨民權內科診所專任醫師

學歷

1999-2007	長庚大學醫學系	醫學士

經歷

2018-	禾馨醫療體系	專任醫師
2017-2018	師大樂活診所	專任醫師
2015-2017	雲林台全體系	專任醫師
2012-2015	嘉義長庚內分泌暨新陳代謝科	主治醫師
2010-2012	嘉義長庚內分泌暨新陳代謝科	總醫師
2010-2012	嘉義長庚內科部	住院醫師

研究領域

1 孕期高血糖
2 孕期甲狀腺

Special Case Sharing: The Care of MODY 2 Patient in Pregnancy
MODY 2 孕期照護經驗

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黃峻偉
Dianthus M.Q. Internal Medicine Clinic
禾馨民權內科診所

MODY is a group of monogenic diaetes diseases. Most patient with MODY present as young age, non-obese, strong family history of young-onset diabetes without autoantibodies. However, lack of autoantibodies, diabetes ketoacidosis and lack of adequate gene screen tool, most patient of MODY is misdiagnosis. The treatment goal and the medication for patient with MODY is similar with the patient. However, patient with MODY 2 has special presentation: lifelong mild hyperglycemia without diabetes complication even no pharmacotherapy. Due to easy control of blood sugar for patient with MODY 2, most of them are misdiagnosed as easy-control T2DM.

When female patient with MODY 2 is under pregnancy, she will face a special condition: his mild hyperglycemia will be safe for herself but will be danger condition for her offspring without MODY 2 gene.

Here we present 2 cases of female MODY 2 patient. Each of them has 2 gestational course. One patient use intermittent-scan CGM. Hope these case sharing will help you for clinic care.

林怡瑄 Yi-Hsuan Lin

長庚醫院內分泌暨新陳代謝科主治醫師

學歷

2005-2012	China Medical University of Medicine, Taichung, Taiwan	Medical student

經歷

2018-	Division of Endocrinology and Metabolism, Department of Internal Medicine, Chang Gung Memorial Hospital, Linkou Branch	Attending Physician
2016-2018	Division of Endocrinology and Metabolism, Department of Internal Medicine, Chang Gung Memorial Hospital, Linkou Branch	Fellowship
2013-2016	Department of Internal Medicine, Chang Gung Memorial Hospital, Linkou Branch	Resident
2012-2013	Chang Gung Memorial Hospital, Linkou Branch	Post Graduate Year Program

研究領域

1 Diabetes mellitus control & associated complications
2 Diet
3 Endocrine

論文 (5 important publications – latest sequence)

1 Risk factors of first and recurrent genitourinary tract infection in patients with type 2 diabetes treated with SGLT2 inhibitors: a retrospective cohort study. Yi-Hsuan Lin, Chia-Hung Lin, MD, Yu-Yao Huang, An-Shun Tai, Shih-Chen Fu, Szu-Tah Chen MD , Sheng-Hsuan Lin*.Diabetes Research and Clinical Practice, Volume 186, 2022, 109816. DOI: https://doi.org/10.1016/j.diabres.2022.109816

2 Renal and Glucose-Lowering Effects of Empagliflozin and Dapagliflozin in Different Chronic Kidney Disease Stages. Yi-Hsuan Lin, Yu-Yao Huang, Sheng-Hwu Hsieh, Jui-Hung Sun, Szu-Tah Chen and Chia-Hung Lin*. Front. Endocrinol (2019). 10:820. doi: 10.3389/fendo.2019.00820

3 Impact of Carbohydrate on Glucose Variability in Patients with Type 1 Diabetes Assessed Through Professional Continuous Glucose Monitoring: A Retrospective Study. Yi-Hsuan Lin, Yu-Yao Huang, Hsin-Yun Chen, Sheng-Hwu Hsieh, Jui-Hung Sun, Szu-Tah Chen, Chia-Hung Lin*. Diabetes Ther (2019) 10:2289–2304 https://doi.org/10.1007/s13300-019-00707-x

4 Computer-aided Diagnostic Technique in 2-Deoxy-2-[18F] Fluoro-D-Glucose-Positive Thyroid Nodule: Clinical Experience of 74 Non-thyroid Cancer Patients. Yi-Hsuan Lin, Yuan-Chun Tsai, Kun Ju Lin, Jen- Der Lin, Chih-Ching Wang and Szu-Tah Chen*. Ultrasound in Med.&Biol.,Vol.00,No.00, pp.1_14, 2018. doi: 10.1016/j.ultrasmedbio.2018.09.002.

5 Coadministration of DPP-4 inhibitor and insulin therapy does not further reduce the risk of cardiovascular events compared with DPP-4 inhibitor therapy in diabetic foot patients: a nationwide population-based study. Yi-Hsuan Lin, Yu-Yao Huang, Yi-Ling Wu, Cheng-Wei Lin, Pei-Chun Chen, Chee Jen Chang, Sheng-Hwu Hsieh, Jui-Hung Sun, Szu-Tah Chen and Chia-Hung Lin*. Diabetol Metab Syndr (2018) 10:75. doi: 10.1186/s13098-018-0378-6.

The Impact of HAPO & HAPO FUS on GDM Care
HAPO & HAPO FUS 對於 GDM 照護的影響

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The Hyperglycemia and Adverse Pregnancy Outcome(HAPO) Study

- 5-year investigator-initiated prospective observational study
- More than 25,000 non-diabetic gravidas were enrolled in 15 field centers located in 9 different countries
- Glucose tolerance is assessed by a 75 g 2-h OGTT at 24-32 weeks' gestation
- Results are unblinded to the woman and her caregivers if: fasting plasma glucose >5.8 mmol/l (104.4mg/dL), 2-h plasma glucose >11.1 mmol/l (199.8mg/dL) or any plasma glucose <2.5 mmol/l (45mg/dL).
- Random plasma glucose measurement is performed at 34-37 weeks or if symptoms suggest hyperglycemia; results are unblinded for values ≥8.9 mmol/l (160.2 mg/dL).
- Maternal blood is obtained for measurement of serum C-peptide and hemoglobin A1c (HbA1C), cord blood for serum C-peptide and plasma glucose, and a capillary specimen is taken between 1 and 2 h following delivery for neonatal plasma glucose. Neonatal anthropometrics are obtained, and follow-up data are collected at 4-6 weeks post-delivery.
- Primary outcomes therefore are: cesarean delivery; increased fetal size (macrosomia/ LGA/obesity); neonatal morbidity (hypoglycemia); and fetal hyperinsulinism. Secondary outcomes are: polycythemia; hyperbilirubinemia; respiratory distress; and birth injury (shoulder dystocia).
- Our results indicate strong, continuous associations of maternal glucose levels below those diagnostic of diabetes with increased birth weight and increased cord-blood serum C-peptide levels.

Hyperglycemia and Adverse Pregnancy Outcome Follow-up Study (HAPO FUS)

- Maternal Gestational Diabetes Mellitus and Childhood Glucose Metabolism
- Maternal Glycemia and Childhood Glucose Metabolism

- The HAPO Follow-up Study included 4,832 children ages 10-14 years whose mothers had a 75-g oral glucose tolerance test (OGTT) at ~28 weeks of gestation. Of these, 4,160 children were evaluated for glucose outcomes.
- Offspring exposed to untreated GDM in utero are insulin resistant with limited b-cell compensation compared with offspring of mothers without GDM. GDM is significantly and independently associated with childhood IGT.
- Across the maternal glucose spectrum, exposure to higher levels in utero is significantly associated with childhood glucose and insulin resistance independent of maternal and childhood BMI and family history of diabetes.

葛菁如 Chin-Ru Ker

高雄醫學大學附設醫院婦產科主治醫師

學歷

2020-	高雄醫學大學臨床醫學研究所	博士班研讀中
2009-2014	高雄醫學大學學士後醫學系	醫學士

經歷

2020-	高醫附設醫院婦產部	主治醫師
2019-2020	高醫附設醫院婦產部	研究醫師
2018-2019	高醫附設醫院婦產部	總醫師
2015-2018	高醫附設醫院婦產部	住院醫師

研究領域

1 高危險妊娠
2 產科超音波
3 胎兒篩檢

論文 (5 important publications – latest sequence)

1 Increased sugar-sweetened beverage use tendency in pregnancy positively associates with peripartum Edinburgh postpartum depression scores. Sci Rep 2021 Jul 28; 11(1):15324. Doi:10.1038/s41598-021-94790-5.

2 500 Cases of High-intensity Focused Ultrasound (HIFU) Ablated Uterine Fibroids and Adenomyosis. Taiwan J Obstet Gynecol. 2020 Nov;59(6):865-871. doi:10.1016/j.tjog.2020.09.013.

3 Endometrial adenocarcinoma initially mistaken as urinary incontinence. Taiwan J Obstet Gynecol 2020. Jul;59(4):590-593. doi:10.1016/j.tjog.2020.05.036.

4 A survey of current use, dilemma and outlook of antenatal ultrasonography in Taiwan. Taiwan J Obstet Gynecol. 2019 Nov; 58(6):820-826. doi:10.1016/j.tjog.2019.09.017.

5 Placenta increta after high-intensity-focused ultrasound for the treatment of a uterine leiomyoma. Am J Obstet Gynecol. 2018 Jul;219(1):115-116. doi:10.1016/j.ajog.2018.01.037.

Upcoming Challenges in the Management of Gestational Diabetes Mellitus in Taiwan: Obstetricians' Perspectives

臺灣妊娠糖尿病照護的下一步挑戰：婦產科觀點

Chin-Ru Ker

葛菁如

Department of Obstetrics and Gynecology, Kaohsiung Medical University Hospital, Kaohsiung City, Taiwan

高雄醫學大學附設醫院 婦產部

Public health policy in Taiwan initiated reimbursement of gestational diabetes mellitus screening tests and subsequent blood sugar test strips since July and December 2021, respectively. Improvement in disease detection and monitor could be anticipated. However, there are still many unsolved issues in the optimization of GDM management, such as antenatal testing and maternal disease surveillance.

Women with pregestational diabetes or gestational diabetes (GDM) is at increased risk of miscarriage, congenital anomalies, macrosomia and stillbirth compared to those without disarrayed glucose metabolism. Common tests used to evaluate fetal well-being include kick counts, non-stress tests, biophysical profiles, contraction stress tests, ultrasonography and Doppler flow studies. Each has its own strengths and applications. The lack of well-designed studies precludes robust recommendations for the efficacy, optimal methods, gestational age to start surveillance, interval of testing or delivery timing. Cost effectiveness analysis should also be implemented to find balance between risks of overtreatments of false-positive cases, risks of early delivery and costs of stillbirth. This is an area requiring more research for ideal clinical suggestions.

Likewise, the maternal disease surveillance goes beyond fetal growth and delivery, but more evidence and clear recommendations are warranted. Retinal and renal assessment at disease diagnosis and subsequent follow up during and after pregnancy are suggested by many professional society guidelines. Postpartum screening, breastfeeding and contraception are equally important for glucose regulation and the women' s general health. Good postpartum glycemic control could bridge to a good start for the next pregnancy. Exactly how, when and what to test and recommend remain to be answered and implemented.

胡啟民 Chii-Min Hwu

臺北榮民總醫院內科部內分泌新陳代謝科主任

Present Appointment

Since 2022	Department of Medicine, National Yang Ming Chiao Tung University School of Medicine, Taipei, Taiwan	Professor
Since 2022	Section of Endocrinology and Metabolism, Department of Medicine, Taipei Veterans General Hospital, Taipei, Taiwan	Chief
Since 2019	Chinese Taipei Diabetes Association	Board of Directors
Since 2017	Institutional Review Board, Taipei Veterans General Hospital	Executive Secretary
Since 2009	Section of Endocrinology and Metabolism, Department of Medicine, Taipei Veterans General Hospital, Taipei, Taiwan	Attending Physician

Leadership & Service

Since 2020	Journal of Diabetes Investigation	Assistant Editor
Since 2019	BMC Endocrine Disorder	Assistant Editor
2013-2019	Formosan Journal of Endocrinology and Metabolism	Editor-in-Chief

Appointments Held

1997-2009	Section of General Medicine, Department of Medicine, Taipei Veterans General Hospital, Taipei, Taiwan	Attending Physician
2001-2002	Division of Clinical Epidemiology and Preventive Medicine, UCLA	Postgraduate Research Scholar

Publications

More than 160 SCI and non-SCI papers

Award Received

MSD Award for Young Investigator
From: The Diabetes Association of The Republic of China
Date: March 12, 2000

Choh Hao Li (李卓皓) Memorial Fund for Hormone Research Award
From: American Bureau for Medical Advancement in China (美國在華醫藥促進局)
Date: May 11, 2001

The Continuing Challenges of Hyperglycemia in Pregnancy in Taiwan
臺灣妊娠高血糖照護的下一步挑戰

Chii-Min Hwu
胡啟民
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妊娠高血糖 (hyperglycemia in pregnancy) 為一種常見的高危險妊娠，可概分為「懷孕前就已罹患糖尿病」與「妊娠糖尿病 (gestational diabetes mellitus, GDM)」兩種類別。「懷孕前就已罹患糖尿病」又可細分為「孕前已知糖尿病 (preexisting DM 或 known DM)」與「孕程前期才診斷出糖尿病 (undiagnosed DM 或 newly diagnosed DM)」兩種情況。

由《臺灣糖尿病年鑑—2021 妊娠高血糖》，吾人了解「懷孕前就已罹患糖尿病」之孕婦，其母嬰健康風險，均較血糖正常孕婦或 GDM 孕婦為高。其次，雖然大部分 GDM 產婦的血糖，會在生產完後回歸正常，但日後罹患第 2 型糖尿病之風險則顯著增加。而胎兒於胚胎時期處在高葡萄糖濃度環境，出生後 (甚至到成人時) 均可能影響其健康。另外，若孕婦血糖控制不良，除形成巨嬰、發生早產、甚或胎死腹中的風險增加，新生兒出生後也較容易出現新生兒低血糖、呼吸窘迫、黃疸等問題。如何在孕期與孕後照護好發生妊娠高血糖的孕婦，實為台灣糖尿病照護的重要課題。

在此提出我們要共同面對的幾大挑戰 : (1) 如何幫助孕齡之已知糖尿病婦女做孕前準備；(2) 如何從孕婦中早期發現糖尿病新病人；(3) 研究對妊娠高血糖孕婦及其胎兒的最適切處置；(4) 研究對此類孕婦的優質產科處置；(5) 研究適切的產後照護；(6) 如何追蹤及防治曾罹患妊娠糖尿病婦女進展到真正糖尿病。如何回應以上挑戰，均無簡易答案，有賴有志之士與團體長期關注，也有待社會大眾了解問題所在，不吝挹注資源來支持。

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學歷

2016-2021	國立陽明大學醫學院公共衛生研究所	博士
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2012-2016	臺北榮民總醫院內分泌暨新陳代謝科	總醫師

研究領域

1 碘營養
2 甲狀腺疾病
3 糖尿病

論文 (5 important publications – latest sequence)

1 Huang CJ, Cheng CP, Lee LH, Chen HS, Hwu CM, Tang KT, Shih CW, Yeh CC, Yang CC, Wang FF. Iodine nutritional status of lactating women in northern Taiwan in 2019. Journal of the Chinese Medical Association. 2021 April;84(4):400-404.

2 Huang CJ, Tseng CL, Chen HS, Hwu CM, Tang KT, Won JG, Shih CW, Yeh CC, Yang CC, Wang FF. Iodine nutritional status of pregnant women in an urban area of northern Taiwan in 2018. PLoS One. 2020 May 15;15(5):e0233162.

3 Huang CJ, Tseng CL, Chu CH, Huang DF, Huang CC, Lin LY. Adherence to guideline in monitoring amiodarone-induced thyroid dysfunction. Journal of Evaluation in Clinical Practice. 2017 Feb;23(1):108-113.

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5 Huang CJ, Jap TS. A systematic review of genetic studies of thyroid disorders in Taiwan. Journal of the Chinese Medical Association 2015 Mar;78(3):145-53.

Thyroid Function and Iodine Nutrition in Pregnancy
懷孕期間的甲狀腺功能與碘營養

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Pregnancy has a huge impact on the thyroid. Placental human chorionic gonadotropin stimulates thyroid hormone production and leads to suppressed maternal thyrotropin concentrations. The concentration of the thyroxine-binding globulin (TBG) is also increased in pregnancy causing total T4 and total T3 levels to be elevated. This makes normal thyroid function reference values different in the pregnant and non-pregnant population.

Trimester specific thyroid function ranges are needed in each region and these values differ largely among ethnicities and iodine status. Both hyper- or hypothyroidism results in unfavorable pregnancy outcome, including miscarriage, perinatal death, gestational hypertension, and low birth weight, etc. Subclinical hyperthyroidism with suppressed TSH levels is the result of physiological changes in pregnancy and is not associated with adverse pregnancy outcome. On the contrary, subclinical hypothyroidism which is usually tolerable in non-pregnancy conditions has been shown to be associated with increased risk of miscarriage, pre-term labor, gestational hypertension, and low birth weight.

Correct diagnosis and prompt treatment of thyroid dysfunction in pregnancy is of crucial importance and could only be achieved using a reliable gestation specific reference standard. More iodine is lost from the urine as a result of increased glomerular filtration rate in pregnancy. The fetus is totally dependent on maternal supply of iodine during pregnancy. Therefore, the pregnant women have been considered the vulnerable groups for iodine deficiency and the world health organization (WHO) recommended that their daily iodine intake to be higher (250 μg) than the usual recommended amount (150 μg) for non-pregnant adults. Iodine supplementation has a role in maintaining adequate iodine status during pregnancy.

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2008	臺大醫院代謝內分泌科	主治醫師

研究領域

1 甲狀腺
2 腦下垂體
3 其他內分泌疾病

論文 (5 important publications – latest sequence)

1 Shih SR, Chen KH, Lin KY, Yang PC, Chen KY, Wang CW, Chen CN, Lin CF, Lin CC. Immunotherapy in Anaplastic Thyroid Cancer: Case Series. Journal of the Formosan Medical Association 2022 Jan 12;S0929-6646(22)00003-1.

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3 Shih SR, Liao SL, Shih CW, Wei YH, Lu TX, Chou CH, Yen EY, Chang YC, Lin CC, Chi YC, Yang WS, Tsai FC. Fibroblast Growth Factor Receptor Inhibitors Reduce Adipogenesis of Orbital Fibroblasts and Enhance Myofibroblastic Differentiation in Graves' Orbitopathy. Ocular Immunology and Inflammation. 2019 Oct 28:1-10. doi: 10.1080/09273948.2019.1672196. [Epub ahead of print]

4 Lin CH, Chen KH, Chen KY, Shih SR, Lu JY. Immune checkpoint inhibitor therapy-induced hypophysitis a case series of Taiwanese patients. Journal of the Formosan Medical Association. 2019 Jan;118(1 Pt 3):524-529. doi: 10.1016/j.jfma.2018.07.014. Epub 2018 Aug 10. Shih SR and Lu JY are corresponding authors

5 Tseng TY, Shih SR, Wang CP, Lin SJ, Jan IS, Wang CL, Liu SY, Chang CC, Lou PJ, Chang TC. Pilot imaging study of o-BMVC foci for discrimination of indeterminate cytology in diagnosing fine-needle aspiration of thyroid nodules. Scientific Reports 2021 Dec 11:23475.

Outcome and Management of Thyroid Autoimmunity in Assisted Reproductive Technology and Pregnancy

自體免疫甲狀腺疾病對人工生殖和孕程的影響與處置

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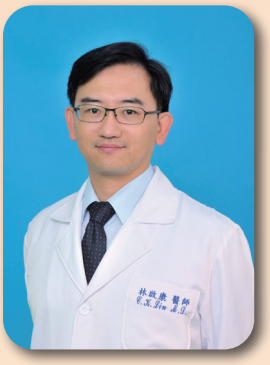
Thyroid hormones affect female reproductive system. Adequate thyroid hormone production is essential for normal menstruation, fertility and the successful maintenance of pregnancy. Autoimmune thyroid disease (AITD) is prevalent among women of reproductive age and the most common cause of thyroid dysfunction. The prevalence of AITD in pregnancy ranges from 5% to 14%. Several studies addressed the association between autoimmune thyroid disease, thyroid function, fertility and pregnancy outcome. Overt hypothyroidism is associated with infertility, miscarriages and fetal-maternal complications, such as hypertensive disorders, preterm delivery, miscarriage, fetal growth restriction and childhood cognitive deficits. The role of euthyroid AITD in fertility, assisted reproductive technology (ART) and pregnancy outcome are debatable. Whether levothyroxine treatment can improve fertility and ART in patients with euthyroid AITD is unclear. Scientific evidence regarding the benefit on pregnancy outcome resulting from thyroxine treatment in euthyroid AITD are conflicting. This review will discuss the role and management of AITD, in the absence of thyroid dysfunction, in ART and pregnancy outcome.



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2015-2016	三軍總醫院基隆分院	主治醫師
2010-2011	三軍總醫院澎湖分院	主治醫師
2003-	三軍總醫院婦產部	住院醫師、總醫師、主治醫師

研究領域

1 高危險妊娠
2 婦科小分子藥物臨床前運用
3 產科敷料開發

孕期甲狀腺照護—是否需要在孕期全面篩檢甲狀腺疾病？

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- During the whole pregnancy process, the serum TBG concentrations rise almost twofold.
- Estrogen increases TBG production and TBG sialylation, which results in decreased clearance of TBG.
- To maintain adequate free T3 and T4, total T4 and T3 will rise by 50%. Beta-HCG remain to manipulate the hormone balance from placenta. At the full-term pregnancy, maternal source of thyroid hormone account 30% of the fetal thyroid
- Both thyroid hormone and thyroid binding globulin levels increased in pregnancy Both high and low maternal thyroid function in the first trimester negatively affect fetal cortical gray matter volume.
- At term, maternal sources account for 30% of T4 in fetal serum.
- Antenatal screening in first trimester and maternal treatment for hypothyroidism did not result in improved cognitive function in children at 3 years of age. Though there is no worldwide consensus for universal screening, it seems the benefit for early evaluation and investigation in subclinical thyroid’ s disease patients. Early detection in thyroid dysfunction in pregnancy may minimize adverse maternal and fetal outcomes and cost-effectively.

MEMO

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骨骼+肌肉**
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維生素D3
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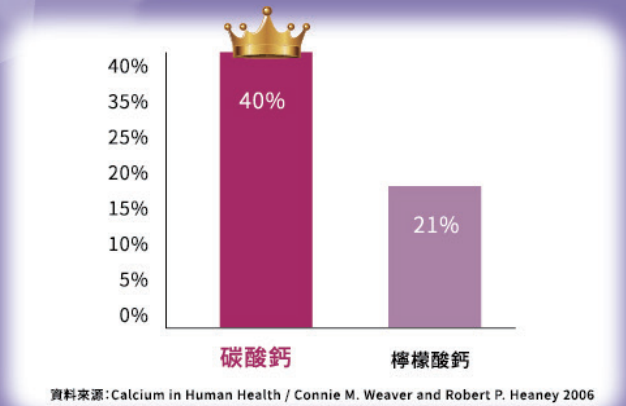
正常生理

鎂鋅銅錳
保護更完整

碳酸鈣、檸檬酸鈣有何不同？怎麼選？

碳酸鈣“鈣含量”比較高！ 不同鈣離子鈣含量比一比



資料來源:Calcium in Human Health / Connie M. Weaver and Robert P. Heaney 2006

鈣片種類	鈣含量	食用方式
碳酸鈣	40%	胃酸有利分解碳酸鈣中的鈣離子，隨餐或飯後兩小時內食用吸收最好(挺立鈣強力錠因有添加脂溶性維生素D幫助鈣吸收，同樣建議隨餐食用)
檸檬酸鈣	21%	空腹、餐前餐後都可食用

PM-TW-CAL-22-00274

*與挺立鈣迷你錠每錠鈣含量相較 **鈣維持骨骼健康，維生素D3維持肌肉正常生理