

PRESS RELEASE

Implementation of ovarian tissue cryopreservation: a choice for young female cancer survivors in Hong Kong

(Hong Kong, 24 February 2023) – **More than 130 babies worldwide have been born from ovarian tissue cryopreservation (OTC) and ovarian tissue transplantation (OTT). Ovarian tissue cryopreservation can improve the quality of life among young female cancer survivors. Here at the Department of Obstetrics and Gynaecology, The Chinese University of Hong Kong (CUHK), the research team has been assessing the feasibility of OTC and subsequent OTT in Hong Kong via xenografts in nude mice.**

This pilot study was conducted at the CUHK teaching hospital, Prince of Wales Hospital. Fifty-two ovarian tissues were collected from 12 patients aged 29 to 41 years during ovarian surgeries and then engrafted into 34 nude mice. Slow freezing and vitrification were tested and their efficacies were directly compared. In Phase I, non-ovariectomised nude mice underwent ovarian tissue engraftment. In Phase II, ovariectomised nude mice underwent ovarian tissue engraftment, followed by gonadotrophin administration to promote folliculogenesis. Ovarian tissue viability was assessed by gross anatomical, histological, and immunohistochemical examinations before and after OTC. Follicular density and morphological integrity were also assessed. The results showed that grafted ovarian tissues remained viable in nude mice after OTC and OTT. Primordial follicles were observed in thawed and grafted ovarian tissues, indicating that both the cryopreservation and transplantation protocols were effective. The results were unaffected by gonadotrophin stimulation.

This pioneering study demonstrated the feasibility of OTC in Hong Kong as well as primordial follicle viability after OTC and OTT in nude mice. Ovarian tissue cryopreservation is ideal for patients who cannot undergo the ovarian stimulation necessary for oocyte or embryo freezing, as well as prepubertal girls, who are ineligible for oocyte freezing. Our findings support the clinical implementation of OTC and subsequent OTT in Hong Kong.

The article “Implementation of ovarian tissue cryopreservation in Hong Kong” was published in the *Hong Kong Medical Journal*. <https://doi.org/10.12809/hkmj2210220>

新聞稿

香港年輕女性癌症倖存者的選擇：卵巢組織冷凍保存

(香港, 2023年2月24日) — 當前全世界已有 **130** 多名嬰兒通過卵巢組織冷凍保存和卵巢組織移植出生。卵巢組織冷凍保存對提高年輕女性癌症倖存者的生活品質至關重要。香港中文大學婦產科研究團隊透過在裸鼠進行異種移植實驗，以評估在香港進行卵巢組織冷凍保存及隨後的移植的可行性。

本研究是一項在香港中文大學教學醫院威爾斯親王醫院進行的試點研究，使用來自 12 例接受過卵巢手術的 29 至 41 歲患者捐贈的共 52 份卵巢組織樣本進行實驗。本研究測試了兩種冷凍方法，這些組織分別經慢凍和玻璃化冷凍保存後異種移植到 34 隻裸鼠中。在第一階段，卵巢組織異種移植到未切除卵巢的裸鼠體內。而在第二階段，卵巢組織異種移植到已切除卵巢的裸鼠體內，並給予促性腺激素以促進卵泡生成。這些組織經冷凍保存前後，分別通過肉眼、組織學分析和免疫組織化學來檢測卵巢組織的存活性，同時評估已移植的卵巢組織卵泡密度和形態完整性。結果顯示卵巢組織在冷凍保存和移植至裸鼠後仍可存活。在解凍和移植後的卵巢組織中仍可見原始卵泡，這表明兩種冷凍方案都是有效的，而注射促性腺激素後沒有顯著性差異。

本研究首次證明卵巢組織冷凍保存在香港實行的可行性以及原始卵泡在卵巢組織冷凍保存和移植至裸鼠後的存活性。卵巢組織冷凍保存是在沒有充足時間進行卵巢刺激用作卵子或胚胎凍存的患者的一個理想選擇，尤其是適用於無法進行凍卵的前青春期少女。我們的研究結果支持卵巢組織冷凍保存和卵巢組織移植應該在香港的臨床上推廣實施。

詳細內容可參閱原文《在香港推行卵巢組織冷凍保存》。

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Source: Jacqueline PW Chung, David YL Chan, Y Song, et al. Implementation of ovarian tissue cryopreservation in Hong Kong. Hong Kong Med J 2023;29:Epub 24 Feb 2023. <https://doi.org/10.12809/hkmj2210220>.

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