Published in final edited form as:

Diabetes Metab Res Rev. 2017 September ; 33(6): . doi:10.1002/dmrr.2906.

Importance of long-term care of diabetic women starting in pregnancy

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Abstract

Large scale, multi-center, controlled studies have demonstrated the importance of glycemic control, as indicated by HbA_{1c} levels, in reducing the incidence and progression of diabetic complications. However, Yasue Omori, who began practicing medicine in Tokyo 60 years ago, in 1957, has the vantage point of long-term continuing care for women with type 2 diabetes, some for several decades. An internist who specializes in diabetic pregnancy, Dr Omori began caring for many of her patients during their pregnancies and continued to care for them following their deliveries, some now more than 50 years. Surprisingly, despite lack of optimal HbA_{1c} levels, they have suffered relatively few diabetic complications. As reported in “The importance of nonstop treatment after delivery for pregnant women with type 2 diabetes” in *Diabetes/Metabolism Research and Reviews*, Omori and colleagues present a historical perspective that provides evidence that a long-term patient-care giver relationship following pregnancy can be valuable in reducing the onset and progression of diabetic complications.

1 INTRODUCTION

There are many constraints for 1 physician to follow his or her adult patients with diabetes over several decades. These include geographic relocation (of patients or practitioners), changes in governmental or private insurance payment for care, and caregiver or practice reassignment of women depending on pregnant and nonpregnant status. Yasue Omori has occupied a historically valuable position of treating women with diabetes at the Tokyo Women's Medical University (TWMU) in Tokyo, Japan since 1957, a year after graduating from Tokyo Women's Medical College (now University). The TWMC was founded in 1900 by Dr Yayoi Yoshioka to improve opportunities for medical education for women who faced discrimination at established medical schools. Dr Omori chose to pursue an internship in internal medicine at TWMC, specializing in diabetes, due to the reputation of one of the professors in the Department of Internal Medicine II who was a diabetes specialist with whom she trained.

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CONFLICT OF INTEREST

There are no conflicts of interest to report.

ETHICS STATEMENT

The study protocol of Omori et al.² was approved by the Tokyo Women's Medical University Institutional Review Board.

When Dr Omori began her research and medical career in the department of Internal Medicine II at TWMC in 1957, women with diabetes were discouraged from becoming pregnant. “There was an unwritten rule forbidding them from becoming pregnant” according to Dr Omori. After caring for pregnancies that resulted in stillbirth, she was motivated to read about the care of diabetic women during pregnancy in the English language medical literature. She then began to introduce practices that had become established in Europe and the USA in the 1930s to the care of diabetic women in Japan. The influence of Dr Omori’s research and avocation for care of diabetic women during pregnancy has been recognized nationally and internationally, including President (2000–2005) and Honorary President (2005-present) of the Japanese Society of Diabetes and Pregnancy, Honorary Member of The Japan Diabetes Society (2003-present), International Member of Diabetic Pregnancy Study Group (DPSG) of the European Association for the Study of Diabetes (EASD) (1985-present), and a speech at the United Nations (Campaign for a United Nations Resolution on Diabetes, 2007). She has published more than 300 scientific publications. Since 1997, Dr Omori has been an Emerita Professor of TWMU.

Dr Omori has a unique perspective as a specialist in the care of diabetic women in Japan, initiating during their pregnancies and continuing for several years. Most of these women have had type 2 diabetes, as type 1 diabetes is relatively rare in Japan. Indeed, Dr Omori was among the first to recognize the prevalence of retinopathy and nephropathy and increased incidence of congenital malformations in the pregnancies of women with type 2 diabetes.¹ As reported in her DMRR article,² Dr Omori cared for 495 diabetic women during pregnancy. Many women were not available for further study over subsequent years, because they returned to their prepregnancy physicians or were no longer surviving. Nevertheless, there was a remarkable number of 68 women with type 2 diabetes, who delivered 80 pregnancies, who were cared for by Dr Omori for 20 to more than 50 years after their initial pregnancy and were available for study. When asked why these women stayed with her after their initial pregnancy, she replied: “Those patients which could be treated by the same doctor over a long period of time, strongly respect doctors, furthermore, they had very good communication with their doctors.” All of the women were in their late 20’s to early 30’s and had been diagnosed with type 2 diabetes 6 to 8 years previously when they had their first pregnancies and began treatment with Dr Omori. Almost all of the women have been treated with insulin following deliveries, except for 5 of the women who have been treated for 20 to 29 years who have been treated with oral agents. The women were grouped by decades of diabetes care after delivery, and the incidence of vascular complications was expressed in relation to duration of diabetes treatment following first delivery and HbA_{1c} levels. Although Dr Omori advised her patients to strive for HbA_{1c} levels less than 7% to avoid diabetic complications, many did not reach this goal, with some in the 20- to 29-year treatment group approach 12%. And yet, only complications related to retinopathy and nephropathy were observed, and none of the patients had cardiovascular disease. It is not clear why the incidence and severity of diabetic complications were not worsened by less than optimal glycemic control as indicated by HbA_{1c} levels. Dr Omori and colleagues speculate that, because the doctor has known her patients for a long time, she may proactively refer them to specialists such as ophthalmologists and nephrologists if she is concerned about the progression of the complications. Other explanations are that the

women may have had blood pressure carefully treated to prevent and inhibit progression of retinopathy and nephropathy, and use of ACE/ARB inhibitors may have inhibited progression of nephropathy. Whether Dr Omori was particularly vigilant about treating hypertension was not mentioned. It is also possible that, like the Joslin 50-year medalists who have lived with type 1 diabetes for 50 or more years and are relatively complication-free, there are genetic factors to protect from diabetic complications, such as preservation of the DNA damage checkpoint pathway.^{3,4}

When Yasue Omori presented preliminary findings reported in the DMRR manuscript at a recent DPSG meeting, one of the attendees commented, “You are the Pricilla White of Japan.” It may be difficult to adapt the “Omori Method” of nonstop treatment of women who enter a diabetes specialist’s practice during pregnancy universally. However, just as Pricilla White’s personal observations from caring for diabetic women during pregnancy were instructive in identifying factors that improve maternal and foetal outcomes of pregnancy,⁵ Yasue Omori’s observations may be instructive in improving quality of life of diabetic women for many years following pregnancy.

Acknowledgments

This work was supported by the National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK), NIH R01DK104649 (to M.R.L.) and NIH P30DK036836 (to the Joslin Diabetes Center).

Funding information

National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK), NIH, Grant/Award Number: P30DK036836 and R01DK104649

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