

adjusting for a range of potential confounding influences, a 1-kg change in mother's birth weight predicted a 246 ± 56 g increase in offspring BW ($p < 0.00001$). The corresponding effect size for father's BW was about half as strong ($\beta = 124 \pm 54$ g, $p < 0.023$). In contrast with expectations, father-offspring BW correlations were not stronger when the mother was taller. These relationships provide evidence for a maternal effect on offspring BW in Cebu, and underscore the importance of maternal genetic and/or environmental factors as an influence on offspring fetal growth rate.

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The Shuar Health and Life History Project: immunoglobulin E, C-reactive protein, and cardiovascular and metabolic health among the indigenous Shuar of Ecuador. MA Liebert^{1,2}, JJ Snodgrass^{1,2}, AD Blackwell^{1,2,3}, FC Madimenos^{1,2}, TJ Cepon^{1,2}, LS Sugiyama^{1,2,4}. ¹Department of Anthropology, ²Institute of Cognitive and Decision Sciences, University of Oregon, Eugene, OR; ³Integrative Anthropological Sciences, ⁴Center for Evolutionary Psychology, University of California, Santa Barbara, CA.

Recent studies suggest that pathogen exposure has significant effects on inflammatory responses that influence adult cardiovascular and metabolic health, although these links are complicated. Under some conditions, these effects may be predictive of future health risks, including diabetes, hypertension, and cardiovascular disease, which are further affected by dietary and lifestyle factors associated with subsistence populations transitioning to a market economy. The Shuar, an indigenous population from Ecuadorian Amazonia, experience a wide range of market integration, providing an important opportunity to examine the relationship between economic and cultural transitions, and individual health status. Here, we examine immunoglobulin E (IgE), a class of antibody closely related to helminth infection, C-reactive protein (CRP), a marker of general inflammatory response, and their relation to cardiovascular and metabolic health in a multi-community sample of 150 Shuar adults. We collected standard anthropometric measures (body mass index, waist circumference, percent body fat), and obtained information on fasting glucose levels and lipids (LDL, HDL, total cholesterol, triglycerides). Later laboratory analyses were used to measure IgE and CRP from whole dried blood spot samples. Measures of market integration were obtained using economic, lifestyle, and household food frequency interviews, which were reduced by factor analysis. Bivariate correlations and multiple regressions were used to test the association between immune responses, cardiovascular and metabolic health, and market integration factors. Results indicate that both IgE and CRP are negatively correlated with cholesterol, yet positively correlated with glucose levels, suggesting important trade-offs between immune responses and different aspects of cardiovascular and metabolic health.

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PLENARY: 1:15 p.m.

Paleolithic diets as a model for prevention and treatment of Western disease. S Lindeberg. Dept of Clinical Science, Lund University, Sweden.

Food habits of prehistoric humans may provide important clues about healthy foods for modern humans. Observational studies suggest extremely low rates of some common Western diseases among modern hunter-gatherers. In the Kitava study among the horticulturalists of the Trobriand Islands, Papua New Guinea, we found a striking absence of stroke, ischemic heart disease, hypertension, diabetes type 2, overweight, and the metabolic syndrome. This may be related both to regular physical activity and to a food pattern based on starchy root vegetables, fruit and fish. More recently, we have applied an 'ancestral-like' dietary model in the prevention and treatment of Western disease, in particular health problems associated with increased waist circumference. In one clinical trial, we found marked improvement of glucose tolerance, independently of weight loss, among patients advised to consume a Paleolithic-like diet for 12 weeks, as compared with a traditional healthy, Mediterranean-style diet. In another trial among patients with established diabetes type 2 we found a Paleolithic-like diet to be helpful for the control of blood sugar, waist circumference, blood pressure, and serum triglycerides. In none of these trials, carbohydrate intake was low. In Kitava, carbohydrate intake is significantly higher than in Western populations. Therefore, we suggest that food choice is more important than counting fat, carbohydrate or calories for long-term health (Lindeberg S. Food and Western Disease. Wiley-Blackwell 2009). It is urgent for preventive medicine to have knowledge of the kind of edible foods that were available and/or consumed during human evolution.

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B: 10:45 a.m.

Reproductive trade-offs and bone health among Shuar and Colonos females from Amazonian Ecuador. FC Madimenos^{1,2}, JJ Snodgrass^{1,2}, AD Blackwell^{1,2,3}, MA Liebert^{1,2}, LS Sugiyama^{1,2,3}. ¹Department of Anthropology, ²Institute of Cognitive and Decision Sciences, University of Oregon; ³Center for Evolutionary Psychology, University of California, Santa Barbara.

Bone mineral density (BMD) is the primary diagnostic parameter of bone health and is a reliable predictor of future fracture risk. In addition to diet and physical activity, reproductive patterns (e.g., parity, breastfeeding, contraceptive use) affect female BMD throughout the lifespan. However, our understanding of how reproductive factors and life history trade-offs shape bone health is limited by lack of data from natural fertility, non-Western populations. Further, the movement away from subsistence lifestyles that occurs with the integration of Indigenous peoples into regional and global economies can affect patterns of diet, physical activity, and reproduction, which