

Kidneys and Women's health

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Kidneys & Women's Health

Include, Value, Empower

8 March 2018

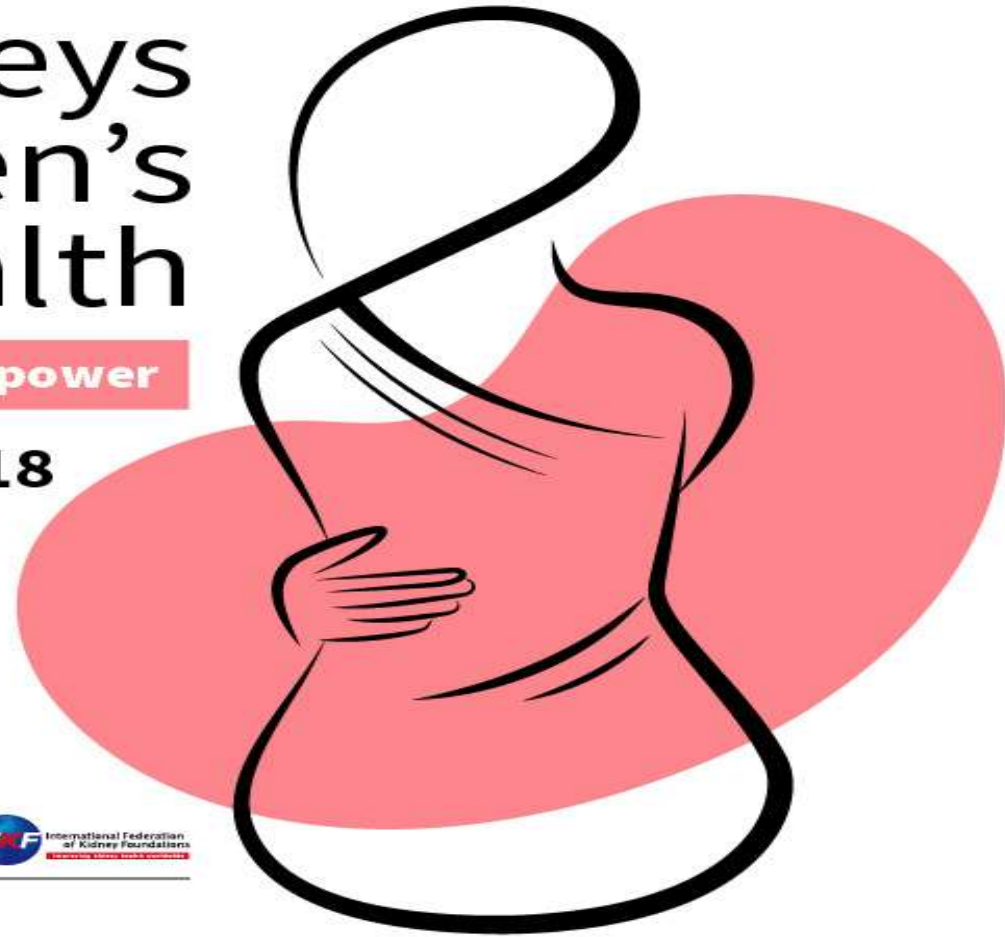


World Kidney Day is a joint initiative of



International Federation
of Kidney Foundations

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Objectives

- ▶ World kidney week/ kidney day/ International women's day dates
- ▶ Functions of kidneys
- ▶ Definition of Kidney disease/ renal failure /renal impairment
- ▶ Statistics
- ▶ Types / Causes of kidney disease
- ▶ Stages of kidney disease
- ▶ Treatment/Management options
- ▶ Risk factors in women
- ▶ Patient Case study
- ▶ References

Important dates

- ▶ kidney health week Australia 2018 (5th to 11th March)
- ▶ Kidney health day 8th March - Theme Women and kidney health
- ▶ International women's day 8th March -Theme - ‘# press for progress’

- ▶ <http://www.worldkidneyday.org/2018-campaign/2018>
- ▶ <http://kidney.org.au/kidney-health-week>
- ▶ <http://kidney.org.au> Kidney health Australia website

Statistics

- ▶ 1.7 million Australians (1 in 10) aged 18 years have symptoms of kidney failure.
- ▶ Sadly >10% of them are aware
- ▶ 90% of kidney function can be lost without experiencing any symptoms?
- ▶ currently 20,766 people in Australia who are on renal replacement therapy
- ▶ 1 in 3 Australians are at risk of kidney disease
- ▶ Diabetes causes about 35% of all chronic kidney disease.
- ▶ High blood pressure (hypertension) causes another 30% of all kidney disease.
- ▶ CKD affects approximately **195 million women** worldwide
- ▶ currently the **8th leading cause of death** in women, close to **600,000 deaths** each year.

Reference - CARI/KHA <http://www.kidney.org.au/KidneyDisease/FastFacts>

Functions of Kidneys

Body filters-to make sure the right amount of wastes and fluids are removed.

- ▶ blood supply circulates through the kidneys about 12 x/hr
- ▶ kidneys process around 200 litres of blood, daily with around 1 to 3 litres of waste leaving the body as urine.

- ▶ **Production of three important hormones,**
 - a) erythropoietin, stimulates red cell production(O₂ transport)
 - b) renin - control blood pressure
 - c) active vitamin D controls calcium uptake and helps make strong bones.

Definition -Kidney disease /Renal Failure

- ▶ Loss of kidney function either suddenly or gradual continuous functional failure of kidneys over months /years
- ▶ Renal insufficiency /impaired kidney function
- ▶ Inability of the kidneys to filter metabolic wastes from the blood.

- ▶ Reference :Tong, Bin and Stevenson, Chris 2007, Comorbidity of cardiovascular disease, diabetes and chronic kidney disease in Australia, Australian Institute of Health and Welfare, [Canberra, A. C. T.]

Types/Causes

1) Acute renal disease-sudden .Divided into three

- a) **Prerenal causes**-relate to ineffective perfusion of the kidneys which are structurally normal
 - ▶ Cardiovascular-cardiogenic shock/CCF, Myocardial infarct
 - ▶ Damage to the kidneys from shock during a severe infection - sepsis
 - ▶ Anaphylaxis
 - ▶ Dehydration

Types/causes

b) Renal causes-associated with structural damage of the glomeruli and renal tubules. Can lead to CKD

- ▶ Sepsis -Streptococcal
- ▶ SLE
- ▶ Vasculitis
- ▶ Hypertension
- ▶ Eclampsia
- ▶ Renal artery stenosis
- ▶ Renal vein thrombosis e.g. in marathon runners- release of myoglobin which is a result of muscle breakdown
- ▶ Medications -nephrotoxic

NB-Myoglobin is a protein that can potentially block and/or crystallize within the kidney tubules thereby causing acute kidney injury

Types / Causes

C) Post renal causes-associated with obstruction of urine flow

- ▶ Obstruction of urine flow, such as with an enlarged prostate
- ▶ Ureteric obstruction- clots, calculi

Types/causes(cont.)

2)Chronic kidney disease-progressive

- ▶ Autoimmune disorders (such as systemic lupus erythematosus)
- ▶ Birth defects of the kidney ,e.g. ,polycystic kidney disease
- ▶ Some toxic chemicals
- ▶ Injury to the kidney -traumatic
- ▶ Kidney stones and infection
- ▶ Problems with the arteries feeding the kidneys
- ▶ Medicines, such as pain and cancer drugs
- ▶ Backward flow of urine into the kidneys- reflux nephropathy
- ▶ Other kidney diseases

3) Acute on chronic kidney disease

Stages of Kidney disease

- ▶ **Stage 1:** A normal eGFR greater than or equal to 90 mL/min/1.73m²
- ▶ **Stage 2:** eGFR between 60-89 mL/min/1.73m²
- ▶ If kidney function is at stage 1 or 2, its classed kidney disease if there is presence of protein or blood in urine
- ▶ **Stage 3a:** eGFR between 45-59 mL/min/1.73m² - mild to moderate decrease
- ▶ **Stage 3b:** eGFR between 30-44 mL/min/1.73m² - a moderate to severe decrease
- Stage 4:** 15-29 mL/min/1.73m²
- Stage 5:** Kidney failure as GFR decreases to less than 15 mL/min/1.73m² or dialysis /transplant/ renal supportive care

Source :<http://www.kidney.org.au/> www.cari.org.au

Risk factors for Kidney disease in women

- ▶ 60 years or older
- ▶ diabetes/ high BP
- ▶ family history of kidney disease
- ▶ heart problems (heart failure or heart attack) and /or stroke
- ▶ obese or overweight
- ▶ smoking
- ▶ Aboriginal or Torres Strait Islander origin/ Afro-America
- ▶ Dieting using herbal supplements and ketogenesis
- ▶ Pre-eclampsia/eclampsia
- ▶ Prolonged use of non-steroidal anti inflammatory drugs

Treatment/Management options

- ▶ Medications/Diet
- ▶ Renal supportive care -Palliation/Counselling
- ▶ Peritoneal dialysis-home therapies are being prioritised and PD retains residual function for longer
- ▶ Haemodialysis
- ▶ Transplantation

Patient case study

- ▶ 57 year old lady (DOB 27/09/1961) Has been on Haemodialysis for 12 years since 2006(@45yrs)

Social hx- Married with two now adult children, recently became first time grandmother.

- ▶ Lives on a cattle farm .Husband is a long distance truck driver.
- ▶ Medically retired from her nursing career due to end stage renal failure

Family hx-Hypertension ,Cardiac disease and diabetes

Medical/surgical hx

- ▶ Hypertension
- ▶ Eclampsia at age 38 with loss of pregnancy at 28 weeks - no follow up after this
- ▶ Obesity - weight 120kg(current weight 93kg)

Case study cont.

Medical hx leading to Renal failure

- ▶ Had flue like symptoms for a period of four weeks .
- ▶ Was seeing GP weekly and ended up being prescribed antibiotics which didn't work
- ▶ High fever with rigors
- ▶ Called ambulance admitted MRRH.
- ▶ Diagnoses- Swine flu - influenza A (H1N1)
- ▶ Developed jaundice /condition worsened, renal function declined due to dehydration
- ▶ Flown to RNSH
- ▶ Kidney biopsy -severe blood loss post procedure
- ▶ Biopsy report-Glomerular Nephriitis- acute inflammation of the kidney, typically caused by an immune response.

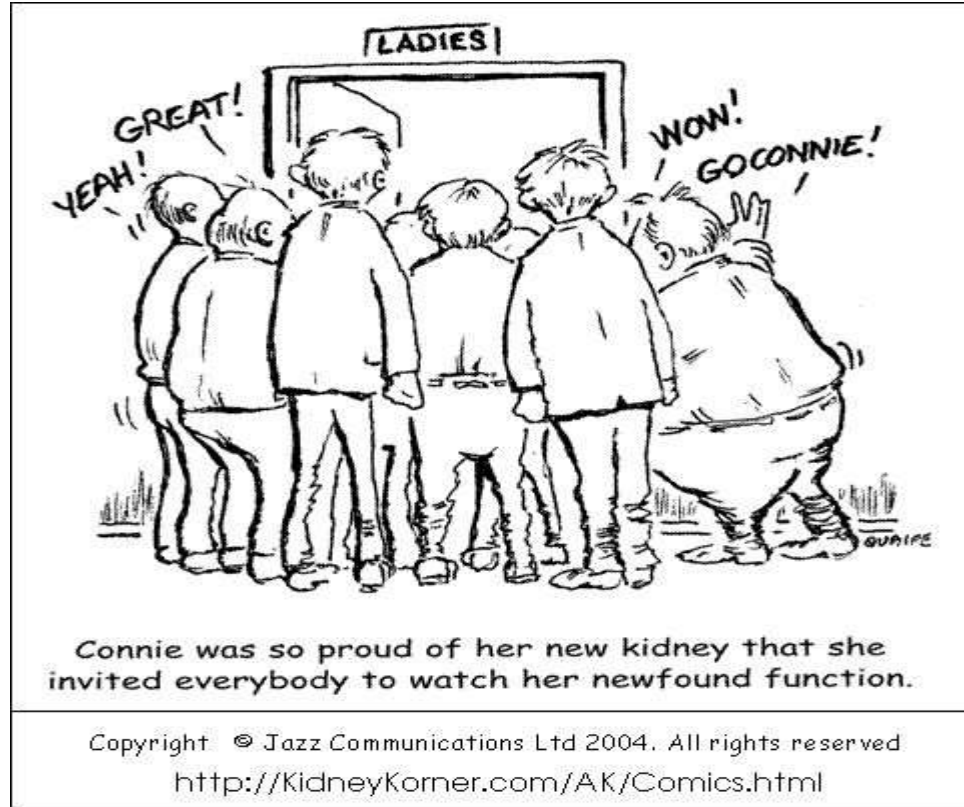
Case study cont.

- ▶ Permacath- CVC
- ▶ Commencement on haemodialysis with hope of recovery
- ▶ Transferred back to MBH
- ▶ AVF Creation
- ▶ Nil Improvement
- ▶ Working towards home dialysis
- ▶ Hoping for a transplant

How women can take charge of kidney health

- ▶ Awareness of family medical history.
- ▶ Annual kidney health check by GP
- ▶ Maintain healthy cholesterol levels
- ▶ Healthy diet full of fresh fruit and vegetables
- ▶ STOP smoking /Maintaining healthy weight for your height-
- ▶ Regular physical activity- 30 minutes of regular moderate-intensity physical activity.
- ▶ Drink water instead-\Drink alcohol in moderation
- ▶ Maintain good blood glucose control/ BP/Take medications as prescribed by your doctor.
- ▶ Maintaining a positive 'stay well' attitude- children learn what they live
- ▶ Proper pre and post natal follow up care

Dialysis humour!



Questions / Comments?

Thank you

References

- ▶ Australian Bureau of Statistics 2013. Australian Health Survey: Biomedical Results for Chronic Diseases, 2011-12. ABS, Canberra
- ▶ Australian Bureau of Statistics 2012. Australian health survey: First results 2011-12. Report No. 4364.0.55.001. ABS, Canberra
- ▶ Chadban SJ, Briganti EM, Kerr PG et al 2003. Prevalence of kidney damage in Australian adults: The AusDiab kidney study. J Am Soc Nephrol July14 (7 Suppl 2): S131-S138
- ▶ Tong, Bin and Stevenson, Chris 2007, Comorbidity of cardiovascular disease, diabetes and chronic kidney disease in Australia, Australian Institute of Health and Welfare, [Canberra, A. T.]
- ▶ Keith DS, Nichols GA, Gullion CM, Brown JB, Smith DH 2004. Longitudinal follow-up and outcomes among a population with chronic kidney disease in a large managed care organization. Arch Intern Med, March 22; 164(6):659-63
- ▶ Johnson DW 2004. Evidence-based guide to slowing the progression of early renal insufficiency. Intern Med J, January; 34(1-2):50-7
- ▶ <http://www.worldkidneyday.org/2018-campaign/2018>
- ▶ <http://kidney.org.au/kidney-health-week>
- ▶ <http://kidney.org.au> Kidney health Australia website