Twitter Thread by P. D. Mangan Health & Fitness Maximalist ■■

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Serum albumin, a protein measured by a common lab test, has a large inverse relation with mortality.

Why?

Thread■

In very old people, albumin was a more important risk marker than traditional risk factors such as HDL, LDL, and HbA1c.
https://t.co/1wolLynI1O

Fig. 5: Hazard ratios for death from any causes according to traditional cardiovascular risk factors and albumin.

	Crude			Adjusted		
Biomarker	HR	95%CI	*p*	HR	95%CI	*p*
Entire cohort						
HDL-cholesterol	0.66	(0.61–0.71)	<0.001	0.96	(0.88–1.04)	0.328
LDL-cholesterol	0.71	(0.67–0.76)	<0.001	0.98	(0.90–1.06)	0.591
Hemoglobin A1c	0.73	(0.67–0.79)	<0.001	0.98	(0.90–1.08)	0.739
Creatinine	1.09	(1.04–1.15)	<0.001	1.14	(1.05–1.24)	0.002
eGFR-cr[a]	0.88	(0.81–0.95)	0.001	1.02	(0.94–1.11)	0.661
CRP[a]	1.55	(1.45–1.65)	<0.001	1.17	(1.08–1.26)	<0.001
Albumin[a]	0.41	(0.39–0.44)	<0.001	0.65	(0.58–0.73)	<0.001



"serum albumin concentration is inversely related to mortality risk in a graded manner over its entire range"

in both healthy people and those with acute or chronic illness.
https://t.co/OMQHNwX8Pd

But, low albumin is NOT a consequence of normal aging.

So, what's going on?

https://t.co/p3RR7SyjUQ

While there are suggestions that low albumin is a sign of undetected illness...

albumin is also associated with loss of muscle mass.

https://t.co/1rW4BluMAs

"the increased risk of disability with low serum albumin concentrations observed in the elderly may actually reflect an association with sarcopenia."

Sarcopenia = pathological muscle loss
https://t.co/FdNA1s4s8V

Old age is not a cause of low albumin, but is associated with muscle loss

and indicates malnutrition.

Serum albumin and health in older people: Review and meta analysis

Sonia Cabrerizo [a], Daniel Cuadras [b], Fernando Gomez-Busto [c], Iñaki Artaza-Artabe [d], Fernando Marín-Ciancas [e], Vincenzo Malafarina [e]

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https://doi.org/10.1016/j.maturitas.2015.02.009 Get rights and content

Highlights

- Old age is not a cause of hypoalbuminemia.
- There is evidence that hypoalbuminemia is associated to loss of muscle mass.
- Albuminemia is an indicator of nutritional state but it is very unspecific.
- Many factors influence haematic levels of albumin.
- Hypoalbuminemia is a negative prognostic factor of mortality.

Low dietary protein leads to lower albumin synthesis.

https://t.co/ZiIjBA69us

Albumin Synthesis Is Diminished in Men Consuming a Predominantly Vegetarian Diet

Since albumin is itself a protein, this points to lower protein intake

https://t.co/qZ9xXlOwML

Conclusion: low albumin is a strong risk factor for mortality.

It's associated with low muscle mass and low protein intake.

Increased dietary protein and resistance training may be the best ways to counteract low albumin.