Childhood Cancer 2012

Alan Craft

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Rudolf Virchow

Virchow -1821-1902

A German doctor, anthropologist, public health activist , pathologist , prehistorian , biologist and politician

He is referred to as the “Father” of pathology

Worked in Charite Hospital , Berlin

Credited with one of the first descriptions of leukaemia

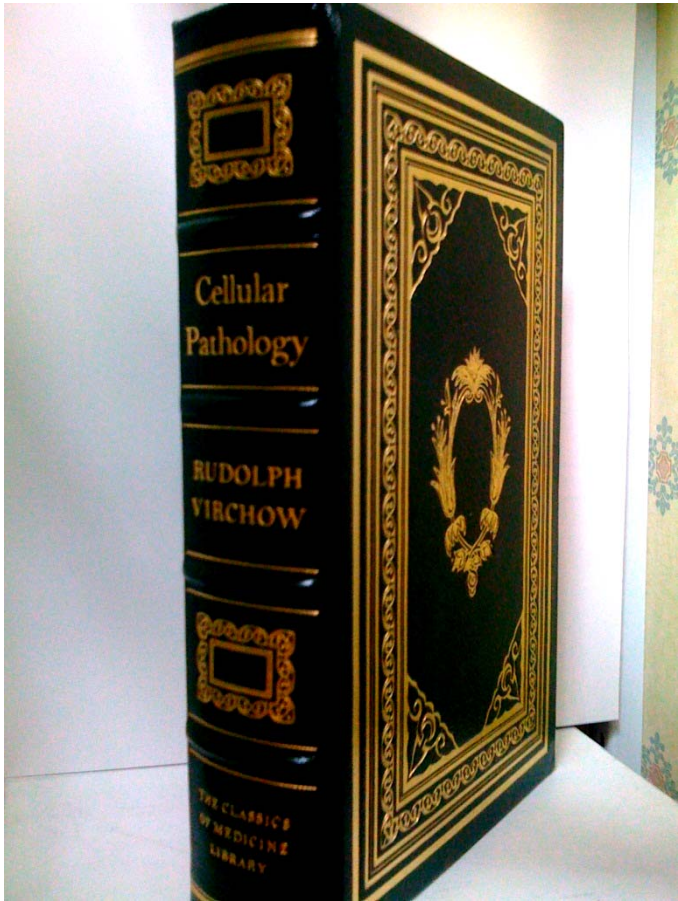
Virchow - 1858

“Omnis cellula e cellula”

Every cell originates from

another existing cell

like it



In the history of all the known cases of leukaemia we only find it once as yet recorded that the patient left the hospital in improved health

I do not wish by any means to infer that the disease is absolutely incurable

I hope that for it remedies will at length be discovered

1858

Programme

- Setting the Scene
- Prognosis
- Genetics and Epigenetics
- Birth Characteristics
- Air Pollution and Smoking
- Chemical Exposures
- Non Ionising Irradiation
- Mobile Phones
- Ionising Radiation
- Infection and Immunity
- Reducing Risks

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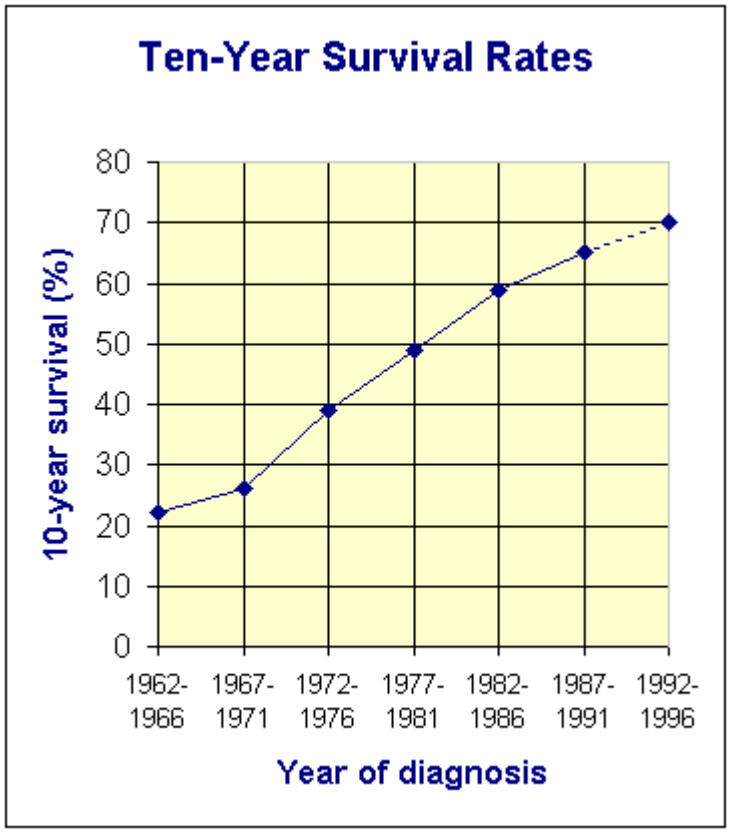
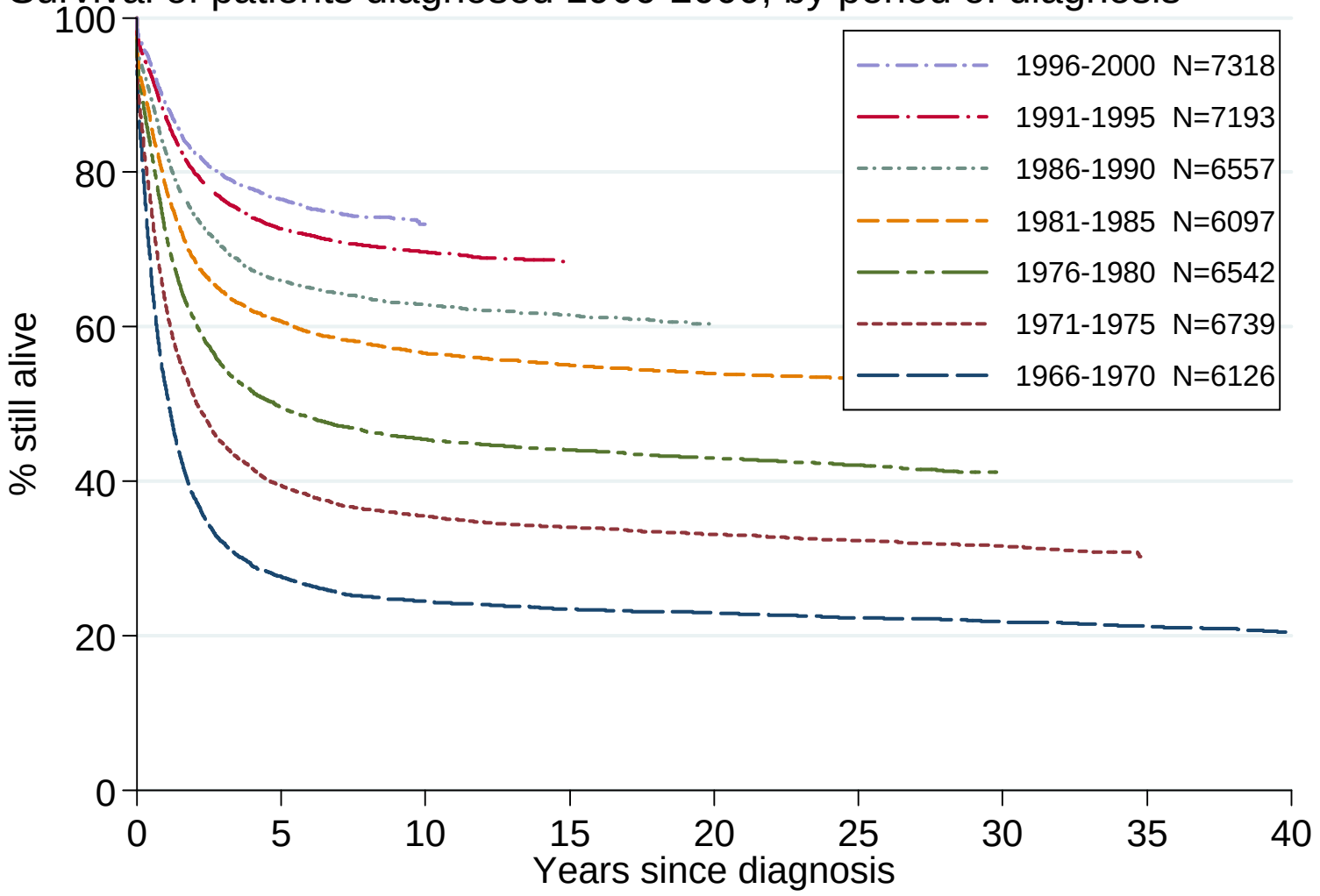


Fig 5.14 Total cancers

Survival of patients diagnosed 1966-2000, by period of diagnosis



Survival increasing at 1.5% per year

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UV exposure

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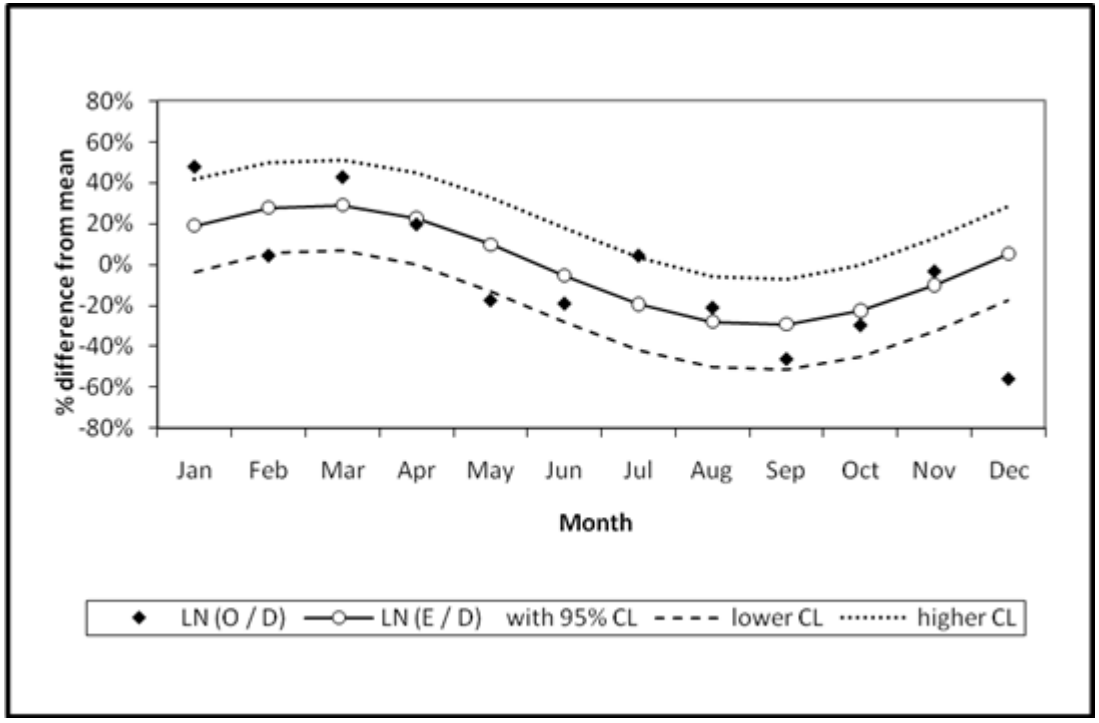
80%
60%
40%
20%
0%
-20%
-40%
-60%
-80%
% difference from mean
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Month
LN (O / D)
LN (E / D)
with 95% CL
lower CL
higher CL

	Total melanoma patients			Male melanoma patients			Female melanoma patients		
	N	Heterogeneity P-value	Sinusoidal P-value	N	Heterogeneity P-value	Sinusoidal P-value	N	Heterogeneity P-value	Sinusoidal P-value
Month of birth	210	0.37	0.23	62	0.80	0.58	148	0.18	**0.03**[1]
Month of diagnosis	**210**	**0.77**	**0.39**	**62**	**0.67**	**0.46**	**148**	**0.87**	**0.70**

[1] Statistically significant result $P < 0.05$

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- UK Childhood Cancer Study Investigators

Exposure to power-frequency magnetic fields and the risk of childhood cancer.

The Lancet 1999: 354: 1925 – 1931

- UKCCSG Investigators

Exposure to power frequency electric fields and the risk of childhood cancer in the UK>

British Journal of Cancer (2002) 87, 1257-1266

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Radiation exposure

Natural background 1 mSv per year

Single CT 7-9mSv

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But what caused it doctor?