

DIFFERENCES IN VALUES OF BODY SURFACE AREA IN CHEMOTHERAPY PATIENTS

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BACKGROUND

Chemotherapy drug dosing in adult patients with cancer has traditionally been based on patient's estimated body surface area (BSA). BSA can be calculated using several standard formulas and none of them are recommended above the others.

OBJECTIVE

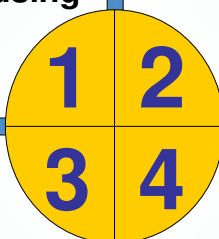
To assess the variation in BSA calculated in oncology patients using different validated formulas.

METHODS

All patients receiving chemotherapy in our hospital, whose weight and height were recorded, were included.

BSA was calculated for all patients using six formulas (DuBois, Mosteller, Gehan and George, Haycock, Fujimoto and Takahira).

All calculated BSAs were compared against DuBois BSA, as this is the most widely used formula.



55 months
N=1,868

63.8% overweight ((BMI ≥ 25)
1.71% underweight (BMI < 18.5)

	BMI	N	ΔSC Mosteller	ΔSC Gehan	ΔSC Haycock	ΔSC Fujimoto	ΔSC Takahira
Severe thinness	<16.00	9	2.69%	2.34%	3.91%	3.26%	0.79%
Moderate thinness	16.00 - 16.99	4	1.99%	1.57%	2.85%	3.09%	0.79%
Mild thinness	17.00 - 18.49	19	1.57%	1.18%	2.21%	3.00%	0.79%
Normal range	18.50 - 24.99	644	0.63%	1.29%	0.99%	2.53%	0.79%
Pre-obese	25.00 - 29.99	776	1.78%	2.97%	2.82%	2.16%	0.79%
Obese class I	30.00 - 34.99	308	3.08%	4.59%	4.79%	1.84%	0.79%
Obese class II	35.00 - 39.99	86	4.35%	6.19%	6.72%	1.53%	0.79%
Obese class III	≥ 40.00	22	5.73%	7.94%	8.83%	1.19%	0.79%

RESULTS

There are remarkable differences in values of BSA depending on the formula used to calculate it, especially at the extremes of BMI. This may result in great differences in dosing, especially in overweight patients.

Therefore, when calculating BSA, the formula used should always be stated.

CONCLUSIONS