Supplementary materials

Doc S1 Imaging protocol

All patients underwent dual-energy computed tomography by either of two scanners (Siemens SOMATOM Definition Flash or SOMATOM Force, Siemens Medical Solutions, Forchheim, Germany) after fasting overnight. Before the examination, all patients drank 1000-1500 ml of water and were injected with 20 mg of scopolamine. The tube voltages of the DECT scans were 100 kV and Sn140 kV, with reference tube currents of 230 mA and 178 mA, respectively. Real-time tube current modulation (CARE Dose 4D, Siemens Medical Solutions) was performed when scanning with a collimator of 32×0.6 mm and a pitch of 0.6. After a routine nonenhanced scan, three contrast-enhanced phases (arterial phase, portal venous phase and delayed phase) were performed following the intravenous administration of iodinated contrast material (Ultravist 370; Schering, Berlin, Germany) at 1.5 mL per kilogram at a rate of 3.5 mL/s using a pump injector. The arterial phase was determined by the time to peak enhancement of the celiac trunk, which covered the whole stomach. The portal venous phase and delayed phase then followed, with a delay time of 20 s after the arterial phase and 150 s after the administration of the contrast agents. All raw images were reconstructed by a D30f kernel and formed mixed 120 kV with a linear blending technique using a slice thickness of 1.5 mm. Then, all images were anonymously retrieved.

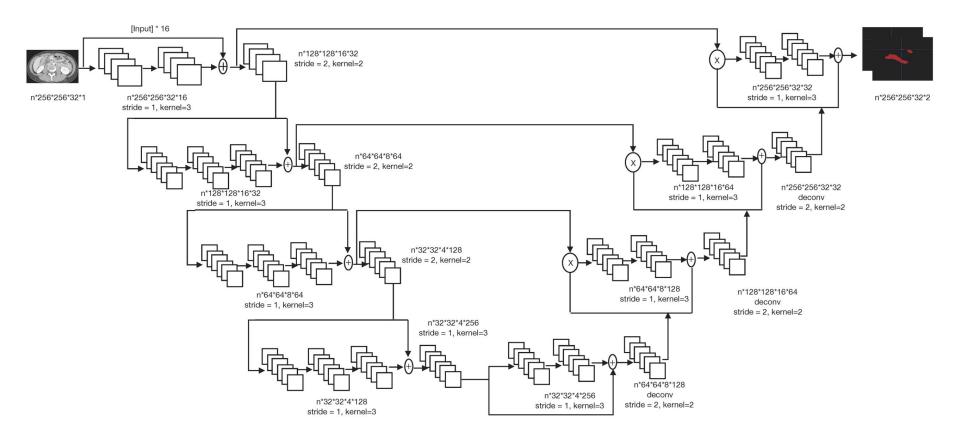


Figure S1 The structure of V-net for semi-automatic segmentation designed in this study

Table S1 Information for extracted radiomics features

Categories	Features	Definition				
First Order	Energy	Energy is a measure of the magnitude of				
Features		voxel values in an image. A larger value				
(describe the		implies a greater sum of the squares of				
distribution of		these values.				
voxel intensities	Total Energy	Total Energy is the value of Energy				
within the image		feature scaled by the volume of the voxel				
region defined by		in cubic mm.				
the mask through	Entropy	Entropy specifies the				
commonly used		uncertainty/randomness in the image				
and basic		values. It measures the average amount of				
metrics.)		information required to encode the image				
		values.				
	Minimum	The minimum value of the voxel				
		intensities				
	10th percentile	The 10th percentile of the voxel				
		intensities				
	90th percentile	The 90th percentile of the voxel				
		intensities				
	Maximum	The maximum gray level intensity within				
		the ROI.				
	Mean	The average gray level intensity within				
	N.C. 11	the ROI.				
	Median	The median gray level intensity within the				
	Tutonou outilo	ROI.				
	Interquartile	The interquartile range of gray values in the ROI.				
	Range Banga	The range of gray values in the ROI.				
	Range					
	Mean Absolute	Mean Absolute Deviation is the mean				
	Deviation (MAD)	distance of all intensity values from the Mean Value of the image array.				
	Robust Mean	Robust Mean Absolute Deviation is the				
	Absolute	mean distance of all intensity values from				
	Deviation	the Mean Value calculated on the subset				
	(rMAD)	of image array with gray levels in				
		between, or equal to the 10th and				
		90th percentile.				
	Root Mean	RMS is the square-root of the mean of all				
	Squared (RMS)	the squared intensity values. It is another				
		measure of the magnitude of the image				
		values. This feature is volume-				
		confounded, a larger value of cc increases				
		the effect of volume-confounding.				
	Skewness	Skewness measures the asymmetry of the				
		distribution of values about the Mean				
		value. Depending on where the tail is				
		elongated and the mass of the distribution				
		is concentrated, this value can be positive				

		or negative.				
		or negative.				
	Kurtosis	Kurtosis is a measure of the 'peak' of the distribution of values in the image ROI. A higher kurtosis implies that the mass of				
		the distribution is concentrated towards				
		the tail(s) rather than towards the mean. A				
		lower kurtosis implies the reverse: that the				
		mass of the distribution is concentrated towards a spike near the Mean value.				
	Variance	Variance is the mean of the squared				
		distances of each intensity value from the				
		Mean value. This is a measure of the				
	T T 10	spread of the distribution about the mean.				
	Uniformity	Uniformity is a measure of the sum of the				
		squares of each intensity value. This is a measure of the homogeneity of the image				
		array, where a greater uniformity implies				
		a greater homogeneity or a smaller range				
		of discrete intensity values.				
Shape Features	Mesh Volume	The sign of the volume is determined by				
(3D) (In this group of		the sign of the normal, which must be consistently defined as either facing				
features we		outward or inward of the ROI.				
included	Voxel Volume	This is a less precise approximation of the				
descriptors of the		volume and is not used in subsequent				
three-dimensional		features. This feature does not make use				
size and shape of the ROI. These		of the mesh and is not used in calculation				
features are	Surface Area	of other shape features. The sum of all triangle areas in the mesh				
independent from	Surface Area to	Here, a lower value indicates a more				
the gray level	Volume ratio	compact (sphere-like) shape. This feature				
intensity		is not dimensionless, and is therefore				
distribution in the ROI and are		(partly) dependent on the volume of the				
therefore only	Snhorioity	ROI.				
calculated on the	Sphericity	Sphericity is a measure of the roundness of the shape of the tumor region relative				
non-derived		to a sphere. It is a dimensionless measure,				
image and mask.)		independent of scale and orientation.				
	Maximum 3D	Maximum 3D diameter is defined as the				
	diameter	largest pairwise Euclidean distance				
	Maximum 2D	between tumor surface mesh vertices. Maximum 2D diameter (Slice) is defined				
	diameter (Slice)	as the largest pairwise Euclidean distance				
		between tumor surface mesh vertices in				
		the row-column (generally the axial)				
		plane.				

	Movimum 1D	Maximum 2D diamatan (Caluma) ia					
	Maximum 2D	Maximum 2D diameter (Column) is					
	diameter	defined as the largest pairwise Euclidean					
	(Column)	distance between tumor surface mesh					
		vertices in the row-slice (usually the					
		coronal) plane.					
	Maximum 2D	Maximum 2D diameter (Row) is defined					
	diameter (Row)	as the largest pairwise Euclidean distance					
		between tumor surface mesh vertices in					
		the column-slice (usually the sagittal)					
		plane.					
	Major Axis	This feature yields the largest axis length					
	Length	of the ROI-enclosing ellipsoid and is					
		calculated using the largest principal					
		component λ major.					
	Minor Axis	This feature yields the second-largest axis					
	Length	length of the ROI-enclosing ellipsoid and					
	0	is calculated using the largest principal					
		component λ minor.					
	Least Axis	This feature yields the smallest axis length					
	Length	of the ROI-enclosing ellipsoid and is					
	8	calculated using the largest principal					
		component λ least. In case of a 2D					
		segmentation, this value will be 0.					
	Elongation	Elongation shows the relationship					
	8	between the two largest principal					
		components in the ROI shape. For					
		computational reasons, this feature is					
		defined as the inverse of true elongation.					
	Flatness	Flatness shows the relationship between					
		the largest and smallest principal					
		components in the ROI shape. For					
		computational reasons, this feature is					
		defined as the inverse of true flatness.					
Gray Level Co-	Autocorrelation	Autocorrelation is a measure of the					
occurrence		magnitude of the fineness and coarseness					
Matrix (GLCM)		of texture.					
Features	Joint Average	Returns the mean gray level intensity of					
(A Gray Level	0	the ii distribution.					
Co-occurrence	Cluster	Cluster Prominence is a measure of the					
Matrix (GLCM)	Prominence	skewness and asymmetry of the GLCM.					
describes the		A higher value implies more asymmetry					
second-order joint		about the mean while a lower value					
probability		indicates a peak near the mean value and					
function of an		less variation about the mean.					
image region	Cluster Shade	Cluster Shade is a measure of the					
constrained by		skewness and uniformity of the GLCM. A					
the mask)		higher cluster shade implies greater					
,		asymmetry about the mean.					
		asymmetry about the mount.					

Cluster	Cluster Tendency is a measure of
Tendency	groupings of voxels with similar gray-
	level values.
Contrast	Contrast is a measure of the local intensity
	variation, favoring values away from the
	diagonal. A larger value correlates with a
	greater disparity in intensity values among
	neighboring voxels.
Correlation	Correlation is a value between 0
Correlation	(uncorrelated) and 1 (perfectly correlated)
	showing the linear dependency of gray
	level values to their respective voxels in
	the GLCM.
Difference	
	Difference Average measures the
Average	relationship between occurrences of pairs
	with similar intensity values and
	occurrences of pairs with differing
	intensity values.
Difference	Difference Entropy is a measure of the
Entropy	randomness/variability in neighborhood
	intensity value differences.
Difference	Difference Variance is a measure of
Variance	heterogeneity that places higher weights
	on differing intensity level pairs that
	deviate more from the mean.
Joint Energy	Energy is a measure of homogeneous
	patterns in the image. A greater Energy
	implies that there are more instances of
	intensity value pairs in the image that
	neighbor each other at higher frequencies.
Joint Entropy	Joint entropy is a measure of the
	randomness/variability in neighborhood
	intensity values.
Informational	IMC1 assesses the correlation between the
Measure of	probability distributions
Correlation	of ii and jj (quantifying the complexity of
(IMC) 1	the texture), using mutual information.
Informational	IMC2 also assesses the correlation
Measure of	between the probability distributions
Correlation	of ii and jj (quantifying the complexity of
(IMC) 2	the texture).
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Inverse	IDM (a.k.a Homogeneity 2) is a measure
Difference Moment (IDM)	of the local homogeneity of an image.
Moment (IDM)	IDM weights are the inverse of the
	Contrast weights (decreasing
	exponentially from the diagonal in the
	GLCM).
Maximal	The Maximal Correlation Coefficient is a
Correlation	measure of complexity of the texture
Coefficient	and $0 \leq MCC \leq 1$.

	(MCC)						
	Inverse	IDMN (inverse difference moment					
	Difference	normalized) is a measure of the local					
	Moment	homogeneity of an image. IDMN weights					
	Normalized	are the inverse of the Contrast weights					
	(IDMN)	(decreasing exponentially from the					
		diagonal in the GLCM).					
	Inverse	ID (a.k.a. Homogeneity 1) is another					
	Difference (ID)	measure of the local homogeneity of an					
		image. With more uniform gray levels, the					
		denominator will remain low, resulting in					
		a higher overall value.					
	Inverse	IDN (inverse difference normalized) is					
	Difference	another measure of the local homogeneity					
	Normalized	of an image. Unlike Homogeneity1, IDN					
	(IDN)	normalizes the difference between the					
		neighboring intensity values by dividing					
		over the total number of discrete intensity					
	T T T	values.					
	Inverse Variance	The inverse variance is another measure					
		of the local homogeneity of an image.					
	Maximum	Maximum Probability is occurrences of					
	Probability	the most predominant pair of neighboring					
		intensity values.					
	Sum Average	Sum Average measures the relationship					
		between occurrences of pairs with lower					
		intensity values and occurrences of pairs					
	S	with higher intensity values.					
	Sum Entropy	Sum Entropy is a sum of neighborhood					
	Sum of Comons-	intensity value differences.					
	Sum of Squares	Sum of Squares or Variance is a measure					
		in the distribution of neighboring intensity					
		level pairs about the mean intensity level in the GLCM.					
Gray Level Size	Small Area	SAE is a measure of the distribution of					
Zone Matrix	Emphasis (SAE)	small size zones, with a greater value					
(GLSZM)		indicative of more smaller size zones and					
Features		more fine textures.					
(A Gray Level	Large Area	LAE is a measure of the distribution of					
Size Zone	Emphasis (LAE)	large area size zones, with a greater value					
(GLSZM)	• • •	indicative of more larger size zones and					
quantifies gray		more coarse textures.					
level zones in an	Gray Level Non-	GLN measures the variability of gray-					
image. A gray	Gray Level Non- Uniformity	level intensity values in the image, with a					
	•						

number of	Char Lorel No-	CI NN management the mariability of another					
number of	Gray Level Non-	GLNN measures the variability of gray-					
connected voxels	Uniformity Normalized	level intensity values in the image, with a					
that share the	Normalized	lower value indicating a greater similarity					
same gray level	(GLNN)	in intensity values. This is the normalized					
intensity.)	~ ~ ~ ~	version of the GLN formula.					
	Size-Zone Non-	SZN measures the variability of size zone					
	Uniformity	volumes in the image, with a lower value					
	(SZN)	indicating more homogeneity in size zone					
		volumes.					
	Size-Zone Non-	SZNN measures the variability of size					
	Uniformity	zone volumes throughout the image, with					
	Normalized	a lower value indicating more					
	(SZNN)	homogeneity among zone size volumes in					
		the image. This is the normalized version					
		of the SZN formula.					
	Zone Percentage	ZP measures the coarseness of the texture					
	(ZP)	by taking the ratio of number of zones and					
		number of voxels in the ROI.					
	Gray Level	GLV measures the variance in gray level intensities for the zones.					
	Variance (GLV)	intensities for the zones. ZV measures the variance in zone size					
	Zone Variance						
	(ZV)	volumes for the zones.					
	Zone Entropy	ZE measures the uncertainty/randomness					
	(ZE)	in the distribution of zone sizes and gray					
		levels. A higher value indicates more					
		heterogeneity in the texture patterns.					
	Low Gray Level	LGLZE measures the distribution of					
	Zone Emphasis	lower gray-level size zones, with a higher					
	(LGLŽE)	value indicating a greater proportion of					
		lower gray-level values and size zones in					
		the image.					
	High Gray Level	HGLZE measures the distribution of the					
	Zone Emphasis	higher gray-level values, with a higher					
	(HGLZE)	value indicating a greater proportion of					
		higher gray-level values and size zones in					
		the image.					
	Small Area Low	SALGLE measures the proportion in the					
	Gray Level	image of the joint distribution of smaller					
	Emphasis	size zones with lower gray-level values.					
	(SALGLE)						
	Small Area High	SAHGLE measures the proportion in the					
	Gray Level	image of the joint distribution of smaller					
	Emphasis	size zones with higher gray-level values.					
(SAHGLE)							
	Large Area Low	LALGLE measures the proportion in the					
	Gray Level	image of the joint distribution of larger					
	Emphasis	size zones with lower gray-level values.					
	(LALGLE)						
		l					

	Large Area High Gray Level	LAHGLE measures the proportion in the
	Emphasis (LAHGLE)	image of the joint distribution of larger size zones with higher gray-level values.
Gray Level Run	(LAHGLE) Short Run	SRE is a measure of the distribution of
Length Matrix	Emphasis (SRE)	short run lengths, with a greater value
(GLRLM)		indicative of shorter run lengths and more
Features		fine textural textures.
(A Gray Level	Long Run	LRE is a measure of the distribution of
Run Length	Emphasis (LRE)	long run lengths, with a greater value
Matrix (GLRLM)		indicative of longer run lengths and more
quantifies gray level runs, which	Gray Level Non-	coarse structural textures.
are defined as the	Uniformity	GLN measures the similarity of gray-level intensity values in the image, where a
length in number	(GLN)	lower GLN value correlates with a greater
of pixels, of		similarity in intensity values.
consecutive	Gray Level Non-	GLNN measures the similarity of gray-
pixels that have	Uniformity	level intensity values in the image, where
the same gray	Normalized	a lower GLNN value correlates with a
level value.)	(GLNN)	greater similarity in intensity values. This
		is the normalized version of the GLN
	Run Length	formula. RLN measures the similarity of run
	Non-Uniformity	lengths throughout the image, with a
	(RLN)	lower value indicating more homogeneity
		among run lengths in the image.
	Run Length	RLNN measures the similarity of run
	Non-Uniformity	lengths throughout the image, with a
	Normalized	lower value indicating more homogeneity
	(RLNN)	among run lengths in the image. This is the normalized version of the RLN
		formula.
	Run Percentage	RP measures the coarseness of the texture
	(RP)	by taking the ratio of number of runs and
		number of voxels in the ROI.
	Gray Level	GLV measures the variance in gray level
	Variance (GLV)	intensity for the runs.
	Run Variance	RV is a measure of the variance in runs
	(RV) Run Entropy	for the run lengths. RE measures the uncertainty/randomness
	(RE)	in the distribution of run lengths and gray
	()	levels. A higher value indicates more
		heterogeneity in the texture patterns.
	Low Gray Level	LGLRE measures the distribution of low
	Run Emphasis	gray-level values, with a higher value
	(LGLRE)	indicating a greater concentration of low
		gray-level values in the image.

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	High Gray Level	HGLRE measures the distribution of the
	Run Emphasis	higher gray-level values, with a higher
	(HGLRE)	value indicating a greater concentration of
		high gray-level values in the image.
	Short Run Low	SRLGLE measures the joint distribution
	Gray Level	of shorter run lengths with lower gray-
	Emphasis	level values.
	(SRLGLE)	
	Short Run High	SRHGLE measures the joint distribution
	Gray Level	of shorter run lengths with higher gray-
	Emphasis	level values.
	(SRHGLE)	
	Long Run Low	LRLGLRE measures the joint distribution
	Gray Level	of long run lengths with lower gray-level
	Emphasis	values.
	(LRLGLE)	
	Long Run High	LRHGLRE measures the joint distribution
	Gray Level	of long run lengths with higher gray-level
	Emphasis	values.
	(LRHGLE)	values.
Neighboring	Coarseness	Coorseness is a measure of average
0 0	Coarseness	Coarseness is a measure of average difference between the center voxel and
Gray Tone		
Difference		its neighborhood and is an indication of
Matrix		the spatial rate of change. A higher value
(NGTDM)		indicates a lower spatial change rate and a
Features	~	locally more uniform texture.
(A Neighboring	Contrast	Contrast is a measure of the spatial
Gray Tone		intensity change, but is also dependent on
Difference Matrix		the overall gray level dynamic range.
quantifies the		Contrast is high when both the dynamic
difference		range and the spatial change rate are high,
between a gray		i.e. an image with a large range of gray
value and the		levels, with large changes between voxels
average gray		and their neighborhood.
value of its	Busyness	A measure of the change from a pixel to
neighbors within		its neighbor. A high value for busyness
distance)		indicates a 'busy' image, with rapid
		changes of intensity between pixels and
		its neighborhood.
	Complexity	An image is considered complex when
	- •	there are many primitive components in
		the image, i.e. the image is non-uniform
		and there are many rapid changes in gray
		level intensity.
	Strength	Strength is a measure of the primitives in
	~~ ··· Still	an image. Its value is high when the
		primitives are easily defined and visible,
		i.e. an image with slow change in
		intensity but more large coarse differences
	1	in gray level intensities.

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Gray Level	Small	A measure of the distribution of small
Dependence	Dependence	dependencies, with a greater value
Matrix (GLDM)	Emphasis (SDE)	indicative of smaller dependence and less
Features		homogeneous textures.
(A Gray Level	Large	A measure of the distribution of large
Dependence	Dependence	dependencies, with a greater value
Matrix (GLDM)	Emphasis (LDE)	indicative of larger dependence and more
quantifies gray	1 ()	homogeneous textures.
level	Gray Level Non-	Measures the similarity of gray-level
dependencies in	Uniformity	intensity values in the image, where a
an image.)	(GLN)	lower GLN value correlates with a greater
an mage.)	(GLN)	•
	D	similarity in intensity values.
	Dependence	Measures the similarity of dependence
	Non-Uniformity	throughout the image, with a lower value
	(D N)	indicating more homogeneity among
		dependencies in the image.
	Dependence	Measures the similarity of dependence
	Non-Uniformity	throughout the image, with a lower value
	Normalized	indicating more homogeneity among
	(DNN)	dependencies in the image. This is the
		normalized version of the DLN formula.
	Gray Level	Measures the variance in grey level in the
	Variance (GLV)	image.
	Dependence	Measures the variance in dependence size
	Variance (DV)	in the image.
	Dependence	
	Entropy (DE)	
	Low Gray Level	Measures the distribution of low gray-
	Emphasis	level values, with a higher value
	(LGLE)	indicating a greater concentration of low
	(LOLL)	gray-level values in the image.
	High Croy Loyal	Measures the distribution of the higher
	High Gray Level	
	Emphasis	gray-level values, with a higher value
	(HGLE)	indicating a greater concentration of high
	C 11	gray-level values in the image.
	Small	Measures the joint distribution of small
	Dependence Low	dependence with lower gray-level values.
	Gray Level	
	Emphasis	
	(SDLGLE)	
	Small	Measures the joint distribution of small
	Dependence	dependence with higher gray-level values.
	High Gray Level	
	Emphasis	
	(SDHGLE)	
	Large	Measures the joint distribution of large
	Dependence Low	dependence with lower gray-level values.
	Gray Level	
	Emphasis	
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(LDLGLE)	
Large	Measures the joint distribution of large
Dependence High Gray Level	dependence with higher gray-level values.
Emphasis (LDHGLE)	

	All patients	SOX regimen	PS regimen
Four confounding factors	Subset 1	SSubset 1	PSubset 1
All delta radiomics features	Subset 2	SSubset 2	PSubset 2
Combination of confounding factors and delta radiomics features	Subset 3	SSubset 3	PSubset 3
First-order features	Subset 4	SSubset 4	PSubset 4
Combination of confounding factors and first-order features	Subset 5	SSubset 5	PSubset 5
Shape features	Subset 6	SSubset 6	PSubset 6
Combination of confounding factors and shape features	Subset 7	SSubset 7	PSubset 7
Texture features	Subset 8	SSubset 8	PSubset 8
Combination of confounding factors and texture features	Subset 9	SSubset 9	PSubset 9

Table S2 Names of feature subsets for patients in the training cohort

Feature subset	Metrics	1	2	3	4	5	6	7	8	9	10	mean	std
Subset 1	ACC (%)	48.8	63.8	52.1	53.3	65.7	62.1	56.4	56.0	58.6	57.1	57.4	5.1
	AUC	0.408	0.661	0.463	0.468	0.447	0.370	0.522	0.455	0.437	0.550	0.478	0.078
Carlana (2	ACC (%)	67.9	69.3	72.9	71.0	78.3	65.0	74.3	73.3	73.6	75.5	72.1	3.7
Subset 2	AUC	0.662	0.767	0.729	0.703	0.791	0.698	0.789	0.756	0.731	0.730	0.736	0.039
Carlaget 2	ACC (%)	71.9	73.8	71.0	78.3	71.0	71.2	70.2	72.9	74.0	75.2	73.0	2.4
Subset 3	AUC	0.708	0.783	0.719	0.839	0.773	0.730	0.760	0.747	0.682	0.745	0.749	0.042
Curb and A	ACC (%)	76.0	71.9	59.0	61.0	66.9	66.7	68.3	68.3	61.7	62.1	66.2	5.0
Subset 4	AUC	0.749	0.692	0.647	0.544	0.577	0.680	0.617	0.543	0.652	0.598	0.630	0.063
0.1.5	ACC (%)	61.9	68.3	66.2	64.3	65.0	73.1	63.6	56.7	66.7	61.7	64.8	4.1
Subset 5	AUC	0.648	0.663	0.668	0.528	0.683	0.657	0.586	0.505	0.645	0.621	0.620	0.058
	ACC (%)	67.4	74.0	68.3	66.9	72.6	71.7	74.8	72.4	66.4	71.4	70.6	2.9
Subset 6	AUC	0.760	0.763	0.787	0.808	0.760	0.766	0.749	0.715	0.767	0.710	0.759	0.028
Subcet 7	ACC (%)	75.0	72.9	71.2	64.8	64.5	60.7	71.2	71.4	63.6	69.5	68.5	4.5
Subset 7	AUC	0.724	0.753	0.764	0.762	0.633	0.772	0.740	0.717	0.665	0.816	0.735	0.051
Subset 8	ACC (%)	77.1	77.1	73.8	68.8	77.4	68.3	73.6	72.1	68.6	69.5	72.6	3.5
	AUC	0.824	0.828	0.805	0.675	0.865	0.699	0.720	0.677	0.675	0.678	0.745	0.073
Subset 0	ACC (%)	75.7	71.4	76.0	72.6	73.3	71.7	76.0	75.7	70.0	75.5	73.8	2.1
Subset 9	AUC	0.798	0.786	0.818	0.768	0.748	0.666	0.736	0.698	0.776	0.725	0.752	0.044

Table S3 Performance of nine feature subsets for all patients in the training cohort

Abbreviations: accuracy, ACC; area under the curve, AUC.

Feature subset	Metrics	1	2	3	4	5	6	7	8	9	10	mean	std
SSubset 1	ACC (%)	42.9	50.0	42.9	57.1	71.4	71.4	50.0	57.1	78.6	64.3	58.6	11.9
	AUC	0.470	0.379	0.242	0.303	0.409	0.318	0.212	0.273	0.318	0.470	0.339	0.085
SSubset 2	ACC (%)	71.4	64.3	71.4	78.6	85.7	57.1	71.4	78.6	78.6	78.6	73.6	7.9
	AUC	0.788	0.773	0.803	0.697	0.864	0.697	0.788	0.833	0.788	0.803	0.783	0.050
SSubset 3	ACC (%)	78.6	78.6	85.7	71.4	78.6	64.3	64.3	78.6	78.6	78.6	75.0	6.6
	AUC	0.818	0.848	0.970	0.773	0.864	0.712	0.576	0.879	0.818	0.848	0.815	0.105
SSubset 4	ACC (%)	78.6	64.3	57.1	64.3	64.3	71.4	78.6	71.4	64.3	71.4	68.6	6.6
	AUC	0.621	0.742	0.606	0.470	0.364	0.439	0.712	0.621	0.470	0.515	0.556	0.117
SSubset 5	ACC (%)	78.6	71.4	78.6	57.1	64.3	57.1	57.1	42.9	64.3	57.1	62.9	10.5
	AUC	0.409	0.470	0.409	0.182	0.379	0.167	0.515	0.379	0.394	0.576	0.389	0.123
SSubset 6	ACC (%)	64.3	78.6	64.3	57.1	71.4	71.4	92.9	78.6	71.4	64.3	71.4	9.6
	AUC	0.712	0.833	0.652	0.697	0.742	0.742	0.939	0.667	0.848	0.758	0.759	0.085
SSubset 7	ACC (%)	64.3	57.1	71.4	57.1	57.1	64.3	71.4	71.4	50.0	50.0	61.4	8.0
	AUC	0.561	0.682	0.727	0.394	0.591	0.545	0.606	0.606	0.470	0.682	0.586	0.096
SSubset 8	ACC (%)	57.1	85.7	64.3	78.6	78.6	64.3	71.4	71.4	50.0	71.4	69.3	10.1
	AUC	0.576	0.939	0.727	0.788	0.803	0.682	0.652	0.758	0.500	0.697	0.712	0.117
SSubset 9	ACC (%)	85.7	71.4	71.4	78.6	85.7	71.4	92.9	78.6	85.7	78.6	80.0	7.0
	AUC	0.758	0.864	0.712	0.667	0.848	0.742	0.848	0.848	0.879	0.864	0.803	0.072

Table S4 Performance of nine feature subsets for patients with SOX regimen in the training cohort

Abbreviations: accuracy, ACC; area under the curve, AUC.

Feature subset	Metrics	1	2	3	4	5	6	7	8	9	10	mean	std
PSubset 1	ACC (%)	57.1	75.0	67.9	60.7	60.7	64.3	64.3	71.4	67.9	67.9	65.7	5.1
	AUC	0.532	0.801	0.608	0.594	0.588	0.418	0.804	0.746	0.646	0.801	0.654	0.125
PSubset 2	ACC (%)	71.4	64.3	71.4	71.4	78.6	71.4	71.4	67.9	71.4	78.6	71.8	4.2
	AUC	0.740	0.649	0.637	0.751	0.751	0.687	0.719	0.658	0.667	0.734	0.699	0.042
PSubset 3	ACC (%)	71.4	82.1	67.9	82.1	64.3	67.9	71.4	71.4	82.1	78.6	73.9	6.4
	AUC	0.760	0.711	0.614	0.904	0.737	0.678	0.711	0.699	0.708	0.716	0.724	0.070
PSubset 4	ACC (%)	71.4	71.4	57.1	64.3	64.3	60.7	64.3	60.7	64.3	64.3	64.3	4.2
	AUC	0.588	0.643	0.614	0.526	0.544	0.667	0.696	0.538	0.673	0.585	0.607	0.058
PSubset 5	ACC (%)	71.4	64.3	67.9	67.9	67.9	85.7	71.4	60.7	71.4	64.3	69.3	6.4
	AUC	0.702	0.652	0.728	0.611	0.687	0.769	0.699	0.523	0.728	0.523	0.662	0.081
PSubset 6	ACC (%)	82.1	78.6	71.4	67.9	78.6	75.0	75.0	71.4	64.3	71.4	73.6	5.1
	AUC	0.863	0.687	0.754	0.757	0.778	0.681	0.626	0.713	0.696	0.716	0.727	0.062
PSubset 7	ACC (%)	67.9	75.0	71.4	71.4	67.9	57.1	71.4	64.3	67.9	75.0	68.9	5.1
	AUC	0.719	0.640	0.746	0.705	0.693	0.658	0.713	0.699	0.813	0.857	0.724	0.063
PSubset 8	ACC (%)	85.7	75.0	78.6	67.9	82.1	75.0	75.0	75.0	71.4	75.0	76.1	4.8
	AUC	0.687	0.740	0.757	0.649	0.798	0.699	0.637	0.623	0.658	0.608	0.686	0.059
PSubset 9	ACC (%)	78.6	64.3	75.0	71.4	78.6	78.6	78.6	71.4	64.3	75.0	73.6	5.4
	AUC	0.775	0.640	0.675	0.687	0.751	0.772	0.687	0.664	0.617	0.661	0.693	0.052

Table S5 Performance of nine feature subsets for patients with PS regimen in the training cohort

Abbreviations: accuracy, ACC; area under the curve, AUC.